BRITISH MEDICAL JOURNAL:

BEING THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EDITED BY ANDREW WYNTER, M.D.

No. CLXIV.] LONDON: SATURDAY, FEBRUARY 18, 1860. [NEW SERIES.

Lectures

ON

THE HISTORIC LITERATURE OF THE PATHOLOGY OF THE HEART AND GREAT VESSELS.

DELIVERED AT THE GROSVENOR PLACE SCHOOL OF MEDICINE.

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LECTURE II.

THE period adverted to at the close of the last lecture is inaugurated by the teaching of that transcendently great genius, Claudius Galen, beyond all doubt one of the most illustrious physicians of antiquity after Hippocrates. He was born, A.D. 131, at Pergamos, a city of Lesser Asia, where he afterwards became the physician to the gladiators. He eventually, after long and varied travel, settled permanently at Rome, and became physician to Marcus Aurelius, Lucius Verus, and Commodus, successively, and is supposed to have died during the reign of Severus. The studies of Claudius Galen were as brilliantly sustained as they were diversified. History, archæology, philosophy, geography, physics, mathematics, grammar, jurisprudence, and the plastic arts, formed parts of the circle. Each science seemed to spread its choicest stores before its gifted child.

But it is in our own department that we have more immediately to estimate the talent and influence of the man. As a comparative anatomist and physiologist, he rivalled Aristotle; as a pathologist, he far outdistanced all his competitors; as a theorist, he was as unrivalled for inventive genius as he was for crystal clearness in unity and coherence; his greatest fault lay in not verifying his theories by actual experiment. As a practitioner, his daring was only equalled by his success. The medical historian might dwell long and wisely upon the character and writings of this great physician. I have only to address myself to a given portion of the latter; I cannot, however, avoid lingering one instant over the surpassing moral excellence of the man. Comparative anatomy was with him, as it were, ancillary to religion—one "eternal hymn to Deity". Throughout his works there breathes a spirit of the sublimest character. He suffers no opportunity to escape without indicating the agency of the Deity in Creation. If ever feelings of regret were awakened at the dominance of the superstitions of the age over the moral liberty of the man—an age that while it sacrificed its hundreds to the brutal pleasure of the arena, dared not yield even one dead body to the cause of science—it must be in the case of Galen. Had his great intellect but been permitted to enter the domain of human pathological anatomy, how great the light this science might have diffused! what acquisitions have been transmitted to future ages! As it is, we cannot but wonder at the mental attributes of the man who subjugated the entire medical world for nearly a thousand years.

Galen was a polyhistorian in the strictest sense. His writings were immense, numbering nearly four hundred, and some of great extent. According to Wunderlich (*Geschichte der Medicin*, p. 34), upwards of one hundred, now lost, treated of philosophy, mathematics, grammar, and jurisprudence. There are many editions of such of his medical works as have been transmitted. One consists of five folio volumes; another, in twenty-two volumes, was edited by Kühn. An admirable edition in French is now in course of publication by Dr. Daremberg; the first two volumes of which are already in print.

I purposely pretermit the general descriptive anatomy of the heart by Galen; inasmuch as such description is in all probability either derived from the writings of Aristotle, Herophilus, and Erasistratus, or from his own examination of animals. Indeed, the famous *Manual of Dissections* is for the greater part a mere manual of comparative zootomy. Still there are some residual points connected with the anatomy of the fœtal heart which are of sterling excellence, and possibly the result of actual dissection of the human fœtus.

In the fœtus, says Galen, the vena cava communicates with the arterial (pulmonary) vein; that is, regarding the sinuses as the *embouchures* of their respective veins. So likewise the venous (pulmonary) artery and the great artery (aorta) are connected by a third vessel, which Nature has formed expressly for such union. And as the first two vessels—the cava and the arterial (pulmonary) vein—are in juxtaposition, Nature has formed a foramen or aperture common to the two, to which is applied a membrane yielding to the current passing from the cava to the arterial (pulmonary) vein, but opposing, on the contrary, the return of the blood from the arterial (pulmonary) vein into the cava. After indicating these wonderful adaptations, he clearly indicates a change more wondrous still. In a few days after birth, the opening betwixt the auricles is closed; and the canal (ductus arteriosus) between the venous (pulmonary) artery is obliterated, so that in later times no trace remains. Many hundred years subsequently, one of the greatest anatomists of any age, Vesalius, the rediscoverer of the foramen ovale, spoke in unqualified terms of praise of the clearness of Galen's description. (Flourens, *Histoire de la Découverte de la Circulation*. Senac, *Traité de la Structure du Cœur*, tome i, p. 151.) He also pointed out that the apex of the heart was formed exclusively by the left ventricle, and that the apex was at times bifid; and mentions an example in the heart of a cock sacrificed to the gods.

But it is in the cardiac physiology and pathology of Galen that we shall find a wider theme for admiration; in the first department, ideas replete with wonderful sagacity; in the second, the first deep foundation laid for the systematic study of the diseases of the heart and its membranous envelope. The name of Galen stands out in bold relief on the page of our history, as the first vivisector who especially examined the heart's movements; and, although his views fell short of truth, the step was nevertheless far in advance both of his predecessors and of his cotemporaries.

In studying the movements of the heart, which he laid bare by removing a portion of the sternum of the living animal, or which he removed all palpitating from the chest, he believed that the contraction of the organ was attended by its elongation, and thought that he could explain this phenomenon on the hypothesis that the longitudinal fibres of the ventricles were in a state of relaxation during systole, while the transverse and oblique fibres were in the opposite state of contraction. To this doctrine even Vesalius subscribed. (Milne-Edwards, *Leçons sur la Physiologie et l'Anatomie*, etc., tome quatrième, p. 19.) Galen furthermore pointed out upon the living heart the acts of systole and diastole, and the period of repose. He also investigated by actual experiment the effects of section of the pneumogastric nerves upon the rhythmic beating of the heart. (*De Locis Affectis*, lib. i, cap. vi; Milne-Edwards, *op. cit.*, vol. iv, pp. 135, 552.) His physiological observations also upon the relative quickness of the pulse in the fœtal, adult, and senile condition, are full of deep interest.

His views respecting the function of the auricular appendages are both original and striking. After describing their structure, he proceeds to state that these appendages were not created without an object. It is, in truth, of the highest importance that no injury should be sustained either by the artery (pulmonary vein) distributed in the lung, or by the vena cava. And it is beyond question that the auricles essentially subserve the requirements of animals. These two vessels, without

entering into other details, have their walls; the one, because it is essentially a vein; the other, as we have before shown, because the organism of the lung rendered necessary that the artery should be venous in structure. But if a vessel with thin and soft walls, by virtue of its organisation, be more disposed to contract easily, so is it from this structure more liable to rupture from over distension. Thus the two vessels entering the heart, possessing walls so thin and soft, might sustain rupture, had not Nature adopted the expedient of the reservoir apparatus of the auricles. The function of these appendages not only averts such danger, but assists further the prompt repletion of the heart. Soft structures contract more rapidly than dense ones. The heart naturally fills in proportion to this speed. But unaided, and unprovided with adjacent reservoirs, the veins would not always have been able to disengorge themselves of their contents, and would consequently have been liable to injury; but, with the assistance of the auricles, they stand aloof from injury. For the same reason, I believe the tissue of the auricles is thin and fibrous. Their tenuity assists their contraction; whilst the power of resistance of their tissues saves them from injury, for the fibrous tissue is very resisting. (*De Usu Partium*, cap. vi.)

I have now to detail the views of Galen respecting the function of the arteries as derived from direct experimental physiology.*

If, said he, an artery is opened, blood escapes; consequently, one of two things happens. It must be either naturally contained therein, or it comes from elsewhere; but if it comes from elsewhere, and if the artery only contained air, the air ought to escape before the blood. But this is not the case. The arteries consequently only contain blood. Take another experiment. "Let a portion of an artery be intercepted between two ligatures; then open it midway, and you will only find blood. Thus, again, it is shown that arteries contain blood, and blood only. But, cry the followers of Erasistratus, how happens it that, if the arteries contain only blood, the air inspired passes into the body? It does not, contends Galen; the inspired air is again rejected. It assists the respiration by its temperature, not by its substance. It cools the blood; and that is the function of respiration." (Flourens, *op. cit.*)

The next great distinction made by Galen concerning the blood, is that of the two different kinds of blood—the spirituous blood, or that of the arteries and the left side of the heart; and the venous blood, or that of the veins and right side of the heart. Here, again (although an anatomical error is involved, for Galen considered that the veins, like the arteries, conveyed blood to the organs), was another great advance in science—the recognition of two different kinds of blood, so familiar at the present day—red blood and black blood, or arterial blood and venous blood.

Of three principal errors with regard to the circulation, Galen at any rate did away with one. He showed experimentally that the arteries contained blood, and not air. But he was not altogether happy with regard to the other two. He believed, first, that the ventricular septum was perforated; and secondly, that the veins originated in the liver, and conveyed blood to the organs.† This double error descended even to the moderns; the latter one being opposed to all idea of a circulation. Still, while firmly believing in the perforation of the septum, Galen was well aware that the blood of the right ventricle passed, at least in part, by the pulmonary artery into the lungs; for he definitely states, "Atqui orificia omnia sunt numero quatuor, duo in utroque ventriculo; in sinistro unum quod spiritum de pulmone immittet, alterum quod educit; reliqua duo in dextro, alterum quod in pulmonem sanguinem emittet, alterum quod e jecore admittet." (Flourens.) He was equally well aware of the anastomosis between the arteries and veins at the periphery of the body.

There is only one other point that I can find time to mention respecting the physiology of Galen. He states that certain vessels have a double circulation (*Œuvres de Galien*, par C. Daremberg, tome i, p. 437); and this fact is not without its significance, when we remember Claude Bernard's statement respecting a double current in certain veins, bearing in mind that Galen's view is now seventeen hundred years old.

The cardiac pathology of Galen is characterised by the same comprehensiveness and depth. He first indicates the mode in which the action of the heart may be arrested, and even death occasioned by the voluntary suppression of the respiration.* His views also respecting the mode in which asphyxia is produced, in consequence of that necessary interdependence of the heart and breathing movement, are fraught with interest. He observes, that those who believe that the thorax does not subserve the function of respiration, cannot discover the cause why, in severe apoplexy, the patients die indirectly, in consequence of the simple injury of the cerebral function. You will, he adds, experience no difficulty, being firmly persuaded that the chest is expanded by the muscles supplied by the nerves connected with the spinal marrow, which muscles are, under such circumstances, deprived of the motor power derived from the brain. Death results in consequence of the heart being deprived of the function of respiration.

The doctrine concerning the pulse is most elaborated. It would be impossible, within my prescribed limit, to attempt an analysis of the subject. This particular treatise abounds with most valuable facts, and must always remain a monument to the sagacity of this physician. With reference to the division of the pulse, I content myself with the following summary. He distinguishes absolute differences of the pulse dependent upon—

1. The nature of the increase of the individual pulse-wave:
   - Pulsus celer,
   - " moderatus,
   - " tardus,
2. The calibre of the arteries during the period of diastole:
   - *a.* Length of the pulse-wave:
     - Pulsus longus,
     - " moderatus,
     - " brevis.
   - *b.* Breadth of the wave:
     - Pulsus latus,
     - " moderatus,
     - " angustus.
   - *c.* Depth of the wave:
     - Pulsus altus,
     - " moderatus,
     - " humilis.
3. Strength:
   - Pulsus validus,
   - " moderatus,
   - " imbecillus.
4. Physical properties of the arterial coat:
   - Pulsus durus,
   - " moderatus,
   - " mollis.
5. Pause:
   - Pulsus rarus,
   - " moderatus,
   - " creber.

Galen further distinguishes† the relative difference of the pulsations; that is, of a single beat with respect to another, such as the rhythmic and unrhythmic, the equal and unequal, the regular and irregular, with numerous modifications.

The first great distinction established by Galen respecting the actual affections of the heart is into those of organic, and of inorganic or sympathetic origin. All cardiac affections attended with pain modify the respiratory act, rendering it painful and small (superficial). He furthermore shows how frequently death results from organic disease, inasmuch as all organs sooner or later become involved in the disturbance. The action of the heart is essential to the well-being of the economy. Other organs may with greater or less impunity have their functions temporarily suspended; but if the heart ceases to act, death speedily follows. Diseases of the heart are frequently induced either by some peculiar cachexia (change of the blood) or by inflammation, either simple or of erysipelatous type; and such diseases frequently prove fatal at an early stage.

The affection known as cardiac syncope is produced by actual disease of the heart, just in the same way that it may be induced by some derangement of the stomach. These affections of the heart induce characteristic alterations in the state of the pulse (*De Pulsibus*).

Palpitation of the heart is observed in many young persons, as well as in those of more advanced age. The paroxysms may suddenly come on, unattended by any other symptom, while in the enjoyment apparently of perfect health. These cases were in the young relieved by bleeding, and many permanently cured by being submitted, after the bleeding, to low

* In the preceding lecture, I have stated, on the authority of Sprengel, that Bacchius, of Tanagra, first advanced this doctrine in opposition to the teaching of Erasistratus, that the arteries only contained air.

† Although Galen placed the seat of sanguifaction of the liver, there is no doubt but that he seized upon some fragment of a truth. C. Hoffman also, in his *Commentary*, page 124, is most explicit:—"Si bene habet comparatio, ut habet: utique dicere etiam licet! Quod hepar est venis, id cor est arteriis. Ut enim ventriculus præparat materiam, quam venæ deinde elaborare debent; et venæ præparant materiam, quam arteriæ denique ad ultimam perfectionem deducere debent: ita hepar præparat materiam, cui cor imponit ultimam manum. Jam igitur cadit hoc, quod Galenus alicubi tantopere negat, hepar non laborare pro corde. Nempe non distinguit publicas actiones a privatis." Even modern anatomists of eminence—for example, Kölliker—have maintained that this organ is in some way concerned in the process.

* The modern researches of E. Weber tend greatly to confirm the possibility of this view. (Milne-Edwards, *op. cit.*)

† For detailed views of the famous Archigenes and others respecting the doctrine of the pulse, consult Galen, *De Diff. Puls.* Opera omnia. Liber quartus, pp. 62-7. Venetiis: 1652.

diet, and taking the proper medicines. Others had a relapse, and were relieved by the same treatment. "I knew a man," says Galen, "who in the spring of each year was subject to palpitation. During a period of three years he was relieved by bleeding in the attack; the fourth year he prevented the attack by being bled beforehand. This man, notwithstanding, died before old age had fairly set in. The age, generally speaking, for such serious attacks is between forty and fifty, and they are often fatal by syncope."

As a type of actual organic disease of the heart and valves (possibly atheroma of the latter at the mitral orifice) I shall quote Galen's narration of the case of Antipater, a physician of some eminence practising at Rome:—"When between fifty and sixty years of age, Antipater was attacked by the ephemeral fever, on the cessation of which he examined his own pulse, with the view to further treatment. Detecting great irregularity in the movement of the arteries, he became at first greatly alarmed; but soon afterwards, feeling that the fever had entirely left him, he quickly took a bath; his physical power being exhausted by work and want of rest. He next adopted a guarded regimen, till the end of the third day, reckoning from the accession of the fever. Having experienced no relapse, he resumed his ordinary occupation; but he was greatly surprised, on feeling subsequently the same irregularity of the radial pulse. Meeting him one day, he held out his hand, and, laughing, asked me to feel his pulse. I, also smiling, replied, 'What enigma are you propounding?' He again, laughing once more, begged me to feel his pulse. I found great irregularity in the pulse, not only in that totality of the pulsations named systematic, but also in each single dilatation of the artery. Astonished to see him alive with such a pulse, I asked him if he felt the slightest difficulty in breathing. He answered, 'None whatever.' I watched each change that occurred, constantly feeling the artery of the wrist, during a period of six months. As he asked me at the commencement of what diathesis I supposed him affected, and how such condition could cause a similar pulse without fever, I replied, that in my *Treatise upon the Pulse* I had adverted to a similar irregularity. Indeed, I am of opinion that it results from an obstruction of the great arteries of the lung (mitral valve?). 'But,' said I to him, 'the obstruction could not become the cause of the inflammation of the viscus within you, for you would have fever. We must only suppose that the obstruction caused by thick and viscid humours on the formation of a crude tubercle, has produced in you a like diathesis.' 'But, then,' interrupted Antipater, 'I should have an asthmatic orthopnœa.' 'What you state,' I replied, 'is probable, but still not exact, for such an orthopnœa would very well be produced by the accumulation of this thick and viscid humour, not in the smooth arteries, but in the trachea.' I ordered him to adopt a regimen similar to that recommended in asthmatic cases, and to take medicines having the same properties as those used in such cases. After an interval of six months, he experienced slight dyspnœa and palpitation of the heart; at the onset, only once, then three, four, or even more attacks, the dyspnœa progressively augmenting to about the fifteenth day, then suddenly the breathing became extremely laborious, his powers failed, and he died quickly, in a similar way to other individuals suffering from disease of the heart."

Galen was, as I have before mentioned, the physician of the amphitheatre, and must in that capacity have had presented to him an almost boundless experience. He states, that gladiators suffering under well-marked traumatic inflammation of the heart die in a similar manner to those who have suffered from idiopathic disease. Should the wound penetrate one of the cavities of the heart, especially the left, death immediately follows, from the effusion of blood. But, on the other hand, if the wound does not enter the cavity, but is limited to its wall, the subject of the injury may not only survive the day on which the wound was received, but even the following night. Death eventually follows, as a consequence of the inflammation.

Lastly, with regard to the affections of the pericardium, Galen states, that there is nothing astonishing in the notion that effusion may take place into the sac sufficient in amount to embarrass the action of the heart, and prevent its perfect dilatation. This is inferrible from numerous dissections of animals, in whose pericardium an abundant collection of fluid was found. The following cases are given in illustration:—"A monkey was kept for dissection; but my engagements prevented my fulfilling, for a time, such purpose. It daily emaciated; after death, all the organs were healthy, with the exception of the pericardium. This tunic contained a cyst filled with fluid, resembling hydatids. In a cock, instead of fluid we found within the pericardium a scirrhous tumour, resembling many thick membranes superposed (false membranes). It is, therefore, probable that in the human subject similar productions may occur." Galen further states, that uncomplicated inflammations of the pericardiam, as well as other similar membranes covering other viscera, do not, as a rule, place life in jeopardy. I have elsewhere adverted to the fact, that the statistics by Bamberger of these affections fully justify the opinion of Galen.

Vacation Lectures
ON
FIBRINOUS DEPOSITION IN THE HEART:

ITS HISTORY AND PRACTICAL MEANING.

DELIVERED AT THE GROSVENOR PLACE SCHOOL OF MEDICINE.

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Lecture II.

Conditions of Disease in which Deposition of Fibrine occurs in the Heart: Symptoms and Diagnosis of Concretion.

[*Continued from page* 103.]

The symptoms indicating the presence of a fibrinous concretion in the heart are modified or obscured by many circumstances, as by the position of the concretion, the rapidity with which it forms, and by the nature of the case in which it occurs. Sometimes the symptoms of concretion stand forward alone; sometimes they are marked by other symptoms; in their course they may be presented in one of three phases:

(*a*) They may be slowly developed throughout.
(*b*) They may be developed slowly in the first instance, and rapidly at last.
(*c*) They may be developed rapidly, appear in a marked degree, and run an almost independent course.

I would further note that the symptoms differ according to the side of the heart on which they are laid down; and they naturally divide themselves into two classes—the general and the physical.

I shall pursue, in the narration of symptoms, an order the reverse of that followed in narrating the conditions under which fibrine is deposited; for now we must have the broad symptoms brought out first—those symptoms which are least obscured, purest in their manifestation. We shall find symptoms of this kind well marked in all that class of cases where the fibrine is absolutely increased, the diseases of the acute inflammatory group; we shall find them best marked of all in those examples where the local inflammatory changes are developed in an early stage, or are not developed at all.

If my own observations are correct, the fibrinous concretions which form during acute inflammatory disorders are, as a general rule, developed on the right side of the heart. It is true that, in the *post mortem* examinations of such cases, small concretions will generally be found on the left side, the cavities of which are empty of all else; but the large concretion which has given rise to the symptoms will be found either in the right auricle, the right ventricle, or the pulmonary artery. The general symptoms arising from a concretion in these right cavities of the heart are such as might be anticipated by the physiologist who could devise means for checking the course of the blood through the inferior and superior cavæ. The supply of blood through the lungs toward the systemic side of the circulation is impeded; the chemical changes of respiration are reduced; and all the functions which depend for their manifestation on a due supply of oxygenated blood are disturbed, and in a greater or lesser degree suspended. The symptoms, however, are those of syncope, not asphyxia; *i. e.*, the leading processes of life are checked from mere absence of arterial blood, not from the presence of blood incapable of building up the tissues, and of endowing them and the brain with the essentials of the living forces. The symptoms, indeed, are analogous to

those which arise from the introduction into the veins of air, oil, or other material capable of so modifying the course of the blood as to prevent it from making the pulmonic circuit. The symptoms are, that the body gradually becomes cold, and of livid paleness, the coldness commencing first in the extreme parts; the beat of the arteries is irregular and subdued; the brain, being deprived of its blood, the mind wanders; the muscles, robbed of the same support, sink into restless prostration; sensation is in a great measure lost; the respiratory movements are irregular, though often persistent in action for a few moments after the heart has actually stopped; and the veins of the body, being charged with blood, are sometimes markedly prominent; while a tinge of blueness, arising from their congestion, is given to the more vascular parts, such as the lips or central part of the cheeks.

But there is one other symptom which beyond all these is striking, and I must refer to it particularly, because it is not only striking, but misleading. This symptom is a peculiar *dyspnœa*. The dyspnœa occurs not because the movements of the thorax are sensibly impeded; not because the entrance of air to the lungs is sensibly obstructed, for the murmur of respiration is audible enough, but for the reason that the supply of blood through the pulmonary artery is diminished. This form of dyspnœa is one common indeed to other modes of obstruction commencing in the heart; but in the cases I now name, it is most thoroughly apparent. It is the most distressing of all the forms of dyspnœa with which I am conversant. The asthmatic patient can find some relief in a certain position of the thorax; the phthisical patient can obtain relief on lying down in perfect repose; but the patient with this obstruction gains no moment of tolerance. He feels that in breathing, heaving, and sighing, there is no result; none of that steady continuous support which marks the natural life. You ask him where the oppression he feels is concentrated, and if he is conscious, he points to the heart. If he can speak, he tells you that he can fill his chest, that he has no pain in the strict sense of that term, but an indescribable restless, faint, sickening, deathly oppression. The very approach of your own body bending over the sufferer is insupportable. Whoever has suffered from loss of blood, whoever has carefully observed the symptoms incident to slow hæmorrhage, has felt or observed in a minor degree the symptoms I would describe.

The dyspnœa too, to the external observation, is special. The acts of respiration are rapid and yet deep. The breathing is mainly by the diaphragm, and the alæ of the nose undergo that "working" which all practitioners recognise as an unfavourable sign in all acute diseases. The dyspnœa lasts to the end; after the mind ceases its function; after the body has become as marble; after the restlessness of body has ceased from sheer exhaustion; even some seconds after the heart has ceased to beat, the chest will heave, and the nostril play.

Such are the general symptoms, I say, of well marked concretions occurring on the right side, in the right auricle or ventricle, or both. But what are the special or physical signs? I would state at once, that in relation to the physics of the heart, there is no definite sign indicating the presence of concretion on the right side. The fibrinous mass may certainly interfere with the valvular machinery of the heart; the curtains of the tricuspid valves may be bound down to the cardiac wall, or looped up together by a transverse intertwining of fibrine threads with the tendinous cords of the valves; or the pulmonary semilunar valves may be overlaid with fibrinous deposit; but conditions here are not such as to produce murmur; they are only such as reduce or destroy the normal sounds. And, as the valvular mechanism on the left side is free, and is capable of producing the two sounds in their natural time and place, so the sounds are at most but modified in tone. I have in a few cases observed an irregular action of the heart; but this has been so rare, that I do not attach to it any special importance. Turning from the heart to the lungs, we find, however, in some instances, some physical facts on which to confirm a diagnosis of concretion based on general symptoms. In children, especially where during the existence of an acute inflammatory attack fibrine is laid down, there are presented the most striking indications of emphysema of the lung. In infants, this emphysema is sufficient to raise up the thoracic wall anteriorly into a rounded prominent projection. If you examine this chest with the stethoscope, you may find at no part sign of congestion nor of condensation. When this state obtains (and it often does obtain), the evidence is almost demonstrative as to the presence of concretion. The emphysema is a consequence indeed, of the concretion. It is due, in this case, not to obstruction in some part of the respiratory tract, but to the deficiency of blood in the pulmonic circulation. The presence of blood in the pulmonary tissue in the capillaries covering the air-vesicles, is essential, indeed, to the integrity of the vesicles. We may take a narcotised dog, lay open his chest, keep up his breathing artificially by the double acting bellows, and see the heart beat and the blood make its circuit for an hour or more; there will be no emphysema of lung under moderate and measured force with the bellows, so long as the blood continues to make way. But if we put a check on the blood-current going to the lungs, although the same force be employed with the bellows, the air will infiltrate the pulmonary tissue, there will be emphysema. I make this observation from direct experiment; it is one of value to remember in disease in general, and of great value in this particular form of disease. At the same time, it is not invariably the case that emphysema accompanies fibrinous deposit. I am inclined, indeed, to the opinion that the emphysematous condition is most frequent in children. In adults the heart has a greater propelling power; and the lungs, charged with a small current of blood, give on physical examination indications of congestion rather than of emphysema; in persons of adult life, this is indeed the more common sequence.

In coming to a diagnosis, then, regarding concretion on the right side of the heart, we must carefully consider together the general and physical indications. The general indications are coldness of surface, pallor, prostration, restlessness, enfeebled pulse, and the peculiar dyspnœa, of which I have spoken at length. The physical symptoms, as regards the heart, are irregular or weak tumultuous action, with feeble sounds; as regards the lungs, emphysema or congestion. In the end, in the cases presenting these symptoms, the death is usually very easy; a syncopic anæsthesia comes on, and the watching friends tell you that they were scarcely conscious when the sleep of life became the sleep of death.

The class of symptoms I have thus described marks peculiarly that condition of body in which the fibrine is in absolute excess—hyperinosis. In any one of the diseases which have been ranged under that head, we may have these signs manifested. They may occur before any decided local inflammation has been discovered, or at any time during the period of a local inflammation; in a word, there can never occur that systemic condition on which idiopathic inflammation is based, without some danger of deposition. It is true that in the majority of cases such risk is small, but it is always present; and what is more, the risk or tendency to deposition cannot be measured by the local signs of inflammatory mischief in any given case, nor yet by the general symptoms which accompany the local.

I have stated, in reference to these symptoms, that they may last for different lengths of time. This is the case. I have seen them developed almost in an instant, and run their irresistible course to the death in the period of a few minutes. I have seen them develope slowly, and extend over two or three days; once over as many weeks. These are the extremes on both sides.

The causes of these differences are rather accidental than otherwise. They depend on the manner in which the concretion is laid down, the extent of the obstruction which it throws in the way of the blood, and its position in the heart. When the symptoms have been ushered in suddenly, and have caused death in a few minutes, the event has usually transpired as follows:—The concretion has been laid down at the root or in the body of the pulmonary artery, either in the form of a hollow cylinder, shaped like the tube whose walls it surrounds, of which, indeed, it is a plastic cast; or as a plug or solid cylinder. The deposit may retain for a time a hold on the cardiac wall, so that the blood can float either through it, or around it, at first with but slight impediment. But, unfortunately, three evils are by this time set up: first, the blood-current is impeded; secondly, the surface of the concretion, the inner surface if the fibrine is laid down as a tube, the outer surface if as a solid cylinder, form favourable points for further deposit; and thirdly, as the size of the channel by which the blood is transmitted diminishes, the column of blood passing onwards is rendered proportionately slower. All these events lead to two grand results—narrowing of the blood-channel, and resistance to the blood-current. Occasionally, this process goes on until the passage for the blood is gradually reduced to small dimensions, and the blood circulating through it is cut off slowly, so that symptoms prolonged in character are presented. But, in other examples, the deposit, as the

pressure upon it from behind increases, breaks from its attachment at its base, is carried upwards by the force of the blood-current into the narrower part of the vessel, and, completely obstructing the life-stream, leads to inevitable and almost immediate death.

[*To be continued.*]

Original Communications.

THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF CARDIAC DISEASES.

By W. O. Markham, M.D., F.R.C.P., Physician to St. Mary's Hospital, London.

VIII.—Endocarditis: Pathology. Acute Affections of the Heart's Valves: their Degenerations.

By the term endocarditis is understood inflammation of the whole or of a part of the membrane which covers the valves and the internal surface of the heart. Included also under this head are all those morbid changes which the valvular structures undergo in connexion with acute diseases, or which are indirectly the consequences of the endocardial inflammation.

Much obscurity still involves the pathological history of endocarditis; for now-a-days, happily, we have very rarely an opportunity of studying the disease in its early stage. The remarkable researches and experiments of Dr. Richardson appear, however, to throw some light upon this subject; and I shall, therefore, state shortly what he has observed in cases of endocarditis induced artificially by the injection of lactic acid into the peritoneum.

In considering this subject, it is necessary to keep in view the anatomical nature of the endocardial membrane, and the peculiar accidental circumstances which attend upon and influence its inflammation. This membrane is continuous with, and very similar in structure to, that which lines the arteries and veins. It consists of a stratum of fine fibres, bearing upon them a layer of very delicate epithelium. Blood-vessels ramify in the fibrous tissue, and it is from these that the pathological products of the inflammation are derived.*

The peculiar circumstances attending this inflammation are, the unceasing motion of the part inflamed; and the mechanical action of the blood, which is constantly flowing over and is in contact with the inflamed surface, and with any exudations which may escape from it.

The deep red colour, which the internal surface of the heart frequently presents after death, was once considered as an invariable sign of inflammation of the endocardium. It is, however, in almost all cases, the result simply of imbibition by the heart's tissues of the decomposed and dissolved colouring matter of the blood.

The redness of congestion—the true inflammatory redness—is described by Rokitansky as constantly presenting a pale rose-red colour, the tint of it being subdued by the superficial layers of the endocardial membrane; it assumes a stripe-like, ramifying appearance, corresponding to that of the vessels, and has not the appearance of a general saturation of the tissues. Small ecchymoses are seen here and there in the inflamed part.

In the first stage of the inflammation, Dr. Richardson (*On the Coagulation of the Blood*, p. 371, *et seq.*) found the endocardial surface "intensely vascular, approaching in colour to bright vermilion; the membrane also had a soft fleecy character, giving to it a velvety appearance". The valves were at the same time swollen and vascular, and clear lymph oozed from them when pricked. This lymph appears occasionally to have transuded through the membrane, and may have thus laid the foundation for fibrinous deposits from the blood, by causing its coagulation—an important observation, if further corroborated. "On the surface of the valve (mitral) there was a small fibrinous deposit, which adhered to its position by means of an underlayer of a white glutinous fluid, the like of which I found afterwards could be made to exude from the valve on puncturing it with a needle." Small beads were at the same time developed in the margin of the valves, and also yielded a clear coagulable lymph when pricked, and then shrunk away.

In the second stage of the inflammation, the endocardial surface became less vascular, and had a pale pink colour. The valves also were less red, but were still thickened with the now semisolid exudation within them; and at points their tendinous chords were attached by loose adhesions to the endocardium. In the third stage, all redness disappeared; the exudation was firmer, and the valves and their beaded edges for a long time retained considerable firmness, and a pearly whiteness.

From these observations, it would appear, that the ordinary products of inflammation are exuded both upon and within the endocardium. There are, therefore, two kinds of endocardial deposits to be considered: The "beads," the granulations, and thickenings, which are produced solely by the inflammatory exudation thrown out beneath the unbroken endocardial surface, and therefore within the valves; and the "vegetations," etc., formed chiefly from the fibrine of the blood flowing through the heart, which is attracted to and deposited either upon the surface of the inflamed membrane, or upon the inflammatory matter that has exuded through it. These vegetations, therefore, are engrafted on the inflammatory deposit. It seems very probable, indeed, that a slight degree of roughness of the endocardial surface, resulting from the inflammatory action, may thus induce a deposition upon it of the fibrine of the blood; so that in this way the inflammation becomes, indirectly, a cause of the formation of fibrinous coagula. And this is still more probable in diseases, such as acute rheumatism, in which the blood appears to have a special tendency of separating from its fibrinous constituents.*

These abnormal products, thus formed upon or exuded within the inflamed endocardium, present themselves to us under a variety of forms, differing much in size, number, and consistence. At one time, they exist as minute granulations clustered together around the bases, or fringing the borders of the valves; sometimes they are attached, like polypoid bodies, to the valves, in an isolated form, varying in size from a pea to a hazel-nut. Then, again, they take the form of cauliflower excrescences, passing between and separating the valves, or fringing their torn and roughened edges. The fibrinous deposits are also frequently found fixed, not only on the valves, but also on the endocardium in their neighbourhood. They are mostly found fixed to that surface of the valves which is turned towards the current of the blood flowing through the heart. The different appearances which these granulations and vegetations, etc., present are readily explained, when we regard them as being formed, first, by the deposition of fibrine of the blood upon an inflamed surface; and, secondly, as the results of inflammatory exudation, having the endocardial membrane still unbroken upon them. Whenever this surface is broken or roughened by inflammation, a deposition of the fibrine of the blood (as it would appear) readily takes place upon the broken part.

The valves, and their chords, are not unfrequently ulcerated and ruptured, as a consequence of the endocardial inflammation. The tendons of the papillary muscles, and the valves themselves, are also sometimes fused together, or with the neighbouring parts, and so as to render the closure of the valves imperfect, or to diminish the aperture they surround. The aperture is also sometimes constricted by the deposit of inflammatory exudation in the tissues which form its circumference.

Endocarditis occurs more frequently, or at least its action is much more severe, in the left than it is in the right side of the heart.† The resolution of it is rarely perfect. Whenever we are able to diagnose the presence of endocarditis, we generally find that some appreciable consequences of the inflammation remain after the inflammatory symptoms have passed away.

* The idea, that the internal membrane of the heart or arteries is nourished by the blood which flows over it, is quite contrary to all physiological facts.

* Virchow asserts, that these fibrinous formations are merely layers of fibrine separated from the current of blood which flows over the membrane. The only difference which exists, in his view, between endocarditis and endarteritis, is in the more acute course of the former, and in the tendency of it to the formation of papillary or warty excrescences. Both these facts he attributes to the greater vascularity and looseness of the cellular tissue which lies between the valves and beneath the inner layer of the endocardium.

† I am inclined to think that endocarditis attacks the right side of the heart more frequently than is generally supposed; and that we do not notice the fact, because its effects are much less severe, and the pathological signs of it less well marked. In most cases, when the mitral valve is much diseased, the tricuspid will, I believe, be found also affected.

Under very favourable circumstances, it is possible that the inflammatory products may be entirely removed. The fluid exudation may be absorbed, and the fibrinous portions of them —the vegetations—formed out of coagula of the blood, be removed by the disintegrating action of the blood which flows over them. The fibrinous particles thus removed from their points of attachment, and carried along in the current of the blood into the general circulation, occasionally give rise to secondary disorders in the lungs, the brain, the kidneys, and other organs of the body, and sometimes appear to infect and alter the constitution of the blood itself.

The formation of abscess in the walls of the heart, as a result of endocarditis, is a most rare occurrence; when it exists, it may occasion rupture of the heart's walls.

Endocarditis is especially of interest, as being a cause of valvular diseases. Its chief effects, indeed, appear to fall upon the valvular apparatus; and when this has not been injured by the inflammation, and when the muscular tissue of the heart has not been damaged by it, the consequences of endocarditis are of minor importance.*

Chronic Valvular Diseases. Diseases of the valves of the heart, however, are not the products solely of inflammation. They are also, and perhaps in the majority of cases which occur at advanced periods of life, the consequences of a slow degeneration of the textures which form the valves. Chronic diseases of the valves are obscure in their origin, and slow and insidious in their progress. It is only in their advanced states, when they have so destroyed the integrity of the valve's structures as to occasion them imperfectly to perform their office, that they make their existence known to us during life by physical signs and symptoms. They present themselves to us under the form of abnormal depositions of fibrinous, atheromatous, and calcareous matters, beneath the endocardium, and within the valves. The quantity, and form, and nature, and stage of the deposit in each particular case, is the measure of the amount of injury done to the valve which it has pervaded. These peculiar degenerations of the textures of the heart and vascular system generally are, in one shape or other, so frequently observed in advanced life as to lead to the idea that they are modes of the natural decay of the tissue. When met with at early periods of life, they must be regarded as the consequences of perverted nutrition, resulting from unhealthy conditions of the system. There is reason to believe, for instance, that the fibrinous and atheromatous deposits in the valves and arteries are promoted by excessive indulgence in alcoholic fluids; and there can be no doubt that all habits and causes which tend to weaken and injure the system generally, assist in promoting any existing tendency to the deposit of these materials in the tissues. It is also well to remember, that the true inflammatory exudations may also undergo these degenerative changes.+

Valvular diseases, as here considered, result from the destruction and disintegration of their tissues when invaded by these abnormal—fibroid, fatty, and calcareous—matters. The natural properties of these tissues—their remarkable strength, firmness, and elasticity—are diminished or destroyed when invaded by these matters; so that the tissues become softened and brittle, and unfitted for their function, the consequence of which is that they tear, rupture, and yield under the pressure and distension to which they are of necessity continually subjected by the action of the heart. The deposits take place, for the most part, beneath and within the internal membrane of the valves of the heart and vessels, and consequently they cut off its nutritive supply, which, in the case of the arteries, is derived from the vasa vasorum, through the medium of the middle coat. Hence, also, arises a cause of ulcerations and destructions of parts. The deposit is at one time chiefly atheromatous, and soft; at another, by the accumulation of calcareous salts, the tissues become hardened, brittle plates of greater or less extent being thus formed in it, and sometimes so extensively as to convert the valve or the artery affected into a brittle, hardened mass. Under such circumstances, when the internal membrane is broken or destroyed, the roughened borders and points of the calcareous plates become exposed to immediate contact with the blood, so that the fibrine of this fluid not unfrequently becomes attracted to and deposited upon them, just as we found it was in the case of endocarditis. The blood, also, under such conditions, is apt to assist in the further destruction of the affected parts, being forced at each systole of the heart beneath the edges of the calcareous plates, and against the softened and weakened tissue. It is in this way that it, usually, gradually distends the arterial coats in the formation of aneurisms, and aids in the rupture and ulceration of the valves of the heart.

We not unfrequently meet in practice with cases in which one of the aortic valves appears to have been *suddenly* ruptured in this way by violent muscular exertion. The individual affected may have enjoyed perfect health up to the date of such exertion; but from that moment has suffered from symptoms of heart affection. We may reasonably conjecture that, in such cases, the tissues of the valves must have been partially degenerated, and though equal to ordinary pressure, were unable to bear that which resulted from the extra exertion. It is hardly possible to conceive that any degree of inordinate action of the circulating organs could occasion rupture of perfectly healthy valves. The two following cases will exemplify the point here spoken of. I have notes of several others:—

A. B., a gardener, about 54 years old, had always enjoyed excellent health until about twelve weeks ago. He dates his illness from a "strain" which happened to him when wheeling a heavy wheelbarrow. From that moment he has never "been himself," and his breathing has been affected. He was, at the time he came to me, suffering from decided symptoms of heart-disease; and auscultation pointed out defect of the aortic valves, there being a loud diastolic murmur audible over the site of the aortic valves, and down along the sternum. There can be no rational doubt, that in this case the aortic valvular injury occurred at the time of "the strain."

In another case, the subject of the aortic valvular disease was a man about 45. He had always been very active, and was an excellent runner, and, in fact, used to boast of his wind. About eight months before his death, while running quickly on a message, he was suddenly seized with violent pain in his left side, and in consequence with difficulty reached his home again. From this moment his breathing became affected. I saw him about five months afterwards, and found marked signs of hypertrophy and aortic valvular disease. He eventually sank, after suffering many most severe angina-like attacks. In this case, after death, I found the aortic valves all incompetent; two of them were partially destroyed by ulceration; two of them, also, were puckered, and fused together at their adjoining angles. The aorta, the lining membranes, and the other valves of the heart, were perfectly healthy. The heart was greatly hypertrophied. There was no other disease of parts. Is it not fair to conclude, that in this case the heart-disease dated from the time of the great exertion made in running? His breathing had been previously good, and afterwards always bad. There was no other cause to account for the disease; no rheumatism or kidney affection, etc.

Valvular diseases we therefore find have different modes of origin. They may be the consequences of inflammatory action, and they may be the consequences of textural degenerations. Inflammation softens the valves, in part destroys their tissues, and so renders them liable to ruptures and bulgings. Its exudation into them gives rise to fibrinous formations, whereby they are thickened, and rendered less pliable, firm, and elastic than natural. Hence, also, arise contractions of the valves, their tendons, and their orifices, and adhesions of them to each other, and to the cardiac walls. The fibrinous vegetations (polypoid growths) which form upon their edges, surfaces, and around their tendons, also project between the valves, and prevent their perfect closure. Atheromatous and calcareous degenerations of the valves cause them to assume most varied forms. Sometimes mere specks of the abnormal deposit are seen scattered in the tissues, and sometimes the valves and the arteries are through it converted into semi-solid structures. The calcareous matter, again, may perforate the valves, and assume the most fantastic shapes; thereby, and by deposit of it in the surrounding tissues, the aortic orifice, for instance, may be rendered scarcely large enough to admit the passage of a quill; and so likewise, and by adhesions, the mitral valves may be reduced to the condition of a solid cone, projecting into the left ventricle, having an opening through it scarcely large enough to admit the point of the little-finger. The destructive tendency of these degenerations, and the degree of obstruction to the circulation, and of regurgitation of the blood, which they occasion, our pathological museums abundantly illustrate. Defects of the valves, I may

* It must not be forgotten, however, that the inflammation may be and frequently is, the cause of a slow degeneration of the muscular tissue, through the damage which it has done to its nutrition. This injury is less noted than the valvular injury, because it appears less immediately connected with the inflammation.

+ Under this head, I would particularly call attention to some very interesting researches of Mr. Canton, which certainly tend to upset the theory of atheromatous degeneration being a special attribute of old age.

add, may also result from original malformations of them. Thus, for instance, there may be one valve only at the aortic orifice, or two of the valves may adhere together, or the three may be present, and one of them very small and in a rudimentary state. Congenital defects of the valves of the pulmonary artery are generally associated with other serious organic defects of the heart or its vessels, such as are incompatible with prolonged life. They are therefore rarely met with, except in the very young.

REMARKS ON DR. SKINNER'S CASE OF SUSPECTED POISONING BY OXALIC ACID.

By J. L. W. Thudichum, M.D.

The last number of the British Medical Journal contains an account of a case of suspected poisoning by oxalic acid or its salts, by Dr. Skinner of Liverpool, upon which I beg to offer a few remarks.

An unmarried female was on the 8th of November seized with a severe rigor, followed by an attack of acute peritonitis. Twelve leeches were applied to the abdomen; and the ordinary ice and opium treatment was adopted. Seven days after, the patient was convalescent. On November 20th, a relapse occurred. The peritonitis, which before was general, was now limited to a small spot in the left umbilical region. There was occasional vomiting and retching, etc.; consequently the tongue was furred, and the thirst intense. Eight leeches were applied over the painful spot, followed by large anodyne poultices, and ice and opium. In two days, the patient was again convalescent. On December 1st, the patient complained of continued nausea, drank warm water, and accordingly vomited; but the nausea continued. On December 2nd, she had been vomiting more or less during a space of twenty-four hours, and was apparently rapidly passing into collapse. Creasote and morphia were given; mustard poultices were placed on the hypogastrium; and the patient surrounded with bottles of hot water. Later, hydrocyanic acid was given in effervescence, with bicarbonate of potash and lemon-juice. Beef-tea and port wine were administered *per anum*. In the evening, vomiting had entirely ceased, and reaction was fairly established. Next day she had "twitchings", during the occurrence of which a copious flow of dark coloured fluid passed from the patient *per vaginam*. So copious was it, that it saturated the napkin and the bedclothes. In a day or two from the date of the excessive vomiting, the patient was thoroughly convalescent. Six ounces of the fluid vomited by the patient on December 2nd were examined, and found to contain no poison. The patient, who is described as healthy, had on a previous occasion six leeches applied to her, on account of inflammation of the cervix uteri.

This is the essence of the case, divested of its atmosphere of suspicion.

Giving Dr. Skinner full credit for the correctness of his diagnosis, so far as regards the existence of peritonitis, this would probably be the first case on record in which the cause of such a clear acute attack of peritonitis is ever alleged to have been an irritant poison. But, even admitting that such symptoms as those observed during the second and third attacks might be produced by oxalic acid, there remains one symptom which cannot be explained by the assumption of poisoning simply; namely, the bloody discharge at the crisis of the disorder, two days subsequently to which the patient was thoroughly convalescent. Dr. Skinner is not able to account for this discharge of blood, which produced stains resisting all domestic efforts at removal.

This blood was evidently not ordinary blood, coming direct from an artery or vein, or from capillary vessels; for such blood does not produce stains resisting the domestic efforts at removal. For the same reason, it cannot be considered as fresh menstrual blood, particularly if we give credit to the statement that the catamenia had appeared shortly before her illness. But if we consider this blood to have been effused into some internal cavity some time before its discharge, and there to have been retained and altered, then the colour of the fluid, the copiousness of its flow, and the peculiar nature of the stains, are satisfactorily accounted for.

Now, as peritonitis preceded by rigors, being itself a very rare disorder, is not produced by oxalic acid taken into the stomach, and as a sudden discharge of blood from the vagina, or perhaps the discharge of an accumulation of blood from the uterine cavity, or the accumulation of blood in the uterine cavity, are not symptoms or sequels of oxalic acid introduced into the system, we have here the two most important elements in the disorder, the beginning and the critical end, which absolutely deny the possibility of poisoning by oxalic acid.

On the contrary, if we assume the large quantity of peculiar blood to have existed in the uterine cavity at the beginning of the disorder, on November 8th (which, in a female who had before been suffering from inflammation of the cervix uteri, so that six leeches had to be applied to the os uteri by Dr. Skinner himself, is an assumption supported by great probability), then all the symptoms of peritonitis, general and local, the vomiting, the nausea, the twitches, and the discharge, the amenability of the case to treatment, the very rapid and complete recovery, are satisfactorily accounted for.

No poison was found in six ounces of matter which had been vomited by the patient. During the night preceding this particular act of vomiting, oatmeal gruel had been administered every half hour or so, but always came up instantaneously. Now this very oatmeal gruel, being the suspected vehicle, should reasonably have had a peculiar acid taste, had it contained oxalic acid—a taste which the patient must have noticed, and which she could not merely describe as a taste different from that of tea and other liquids of which she partook about the same time. The taste of oatmeal gruel is distinctly different from the taste of tea and other liquids, even when that gruel is quite pure and unadulterated with oxalic acid. The avidity with which the patient says she swallowed the gruel, is an afterthought, and evidently invented to account for the real absence of any peculiar taste of the gruel. Some of this gruel, given every half hour, must have been in the stomach at the time the vomiting occurred, the produce of which was analysed, and found to contain partially digested starch-granules, but no oxalic acid. It was an afterthought of the patient, of which she informed Dr. Skinner, that she had similar gruel before this illness, which never did more than nauseate, and that she suffered from "everlasting nausea", "now and again", for the last two years. The patient evidently neither remarked nor said anything about her gruel, either during the last two years or this present illness: it was all elicited from her by the suggestion of poisoning, and then nothing was elicited supporting in any way that suggestion.

The following statement is adduced in support of the case having been one of poisoning by oxalic acid:—"I have been told since, that they" (the twelve and eight leeches applied on two occasions) "did not fix well, that they soon came off, and, with one exception, they all died immediately, the only exception dying next day." But the leeches which the author himself had formerly applied to the os uteri had all lived long after that service. A case by Dr. Arrowsmith, reported by Christison, has evidently suggested the inquiry about the leeches.

Had the information about the leeches been obtained immediately after the event, it could perhaps have been credited. But, regarding this piece of information, all control is wanting. It is not even said who informed Dr. Skinner of the dying of the leeches; it is not said who administered the leeches, who took them off, and how they were treated. A leech kept in the dry over night, in a warm room, particularly if it has been roughly handled, is almost sure to die. Leeches frequently fix badly, or soon come off, even when they have been sucking quite healthy blood. Leeches also have been observed to die after use upon patients who certainly did not suffer from poisoning by irritant poison. Further, in the case of Arrowsmith, the proof is yet wanting that those leeches which died, died in consequence of the admixture of oxalic acid with the blood, or in consequence of any change in the blood produced by oxalic acid. This whole statement about the leeches is, in our present case, a baseless fabric of vision.

In a medical point of view, then, the case offers no peculiarity whatsoever. It was a case of chronic disease of the uterus, either chronic inflammation of the cervix, or its consequences, narrowing or obliteration of the cervical canal; or, what is also very likely, and accounts better for the alleged regularity of the catamenia, it may have been a case of antero- or retroflexion of the uterus, diseases which are not rarely accompanied by inflammation of the cervix uteri. As is very common in such cases, catamenial blood was retained in the cavity of the uterus, and altered in the usual manner. This condition, then, produced the very common symptoms connected with the nervous system, recurring or intermittent attacks of pain in the abdomen, which pain was treated as peritonitis, but is perhaps more properly described as uterine colic, with irradiation of the hyperæsthesia over some or all of the

nervous plexuses of the abdomen. As is usual in such cases, the symptoms increased in severity with every new attack, the cause persisting. The hard and wiry pulse, the furred tongue, the intense thirst, the occasional vomiting and retching, the perspirations covering the forehead, the aspect of the patient, expressive of extreme agony, which the drawn-up knees indicate to be localised in the abdomen—all these are symptoms characterising obstruction of the cervical canal of the uterus, and collection of fluid in its cavity. If during these attacks of pain the uterus had been examined attentively, I have no manner of doubt but that a series of contractions and relaxations of its tissue would have been observed.

Vomiting, which during the second attack had been moderate, became the prominent symptom during the third. Nothing is more common in such severe cases of uterine disease than nausea, occasional sickness, or continued vomiting during severe attacks. In many such patients, general perspirations, seizures of trembling, faintness, or real fainting, follow the sickness and vomiting. The pains pass from the abdomen into the thighs. Tenesmus of rectum and bladder are frequently superadded, producing a desperate condition of the patient, causing sometimes loud lamentations; when continued, this state passes into a chronic disorder of the nervous centres, which, under the name of hysteria, produces a great variety of outbreaks of a very severe nature.

But the symptoms in the third exacerbation of the case under consideration were not of so severe a nature. The patient, when seen on Dec. 2nd, at 7 A.M., had been, or was stated or said herself to have been, vomiting for upwards of twenty hours. At the beginning of these twenty hours, that is, on Dec. 1st, in the morning, the patient had, with the consent of her medical adviser, taken some warm water, to relieve a feeling of nausea. Upon this emetic, the patient had vomited; but the nausea persisted. Gruel of oatmeal was then administered to her every half hour or so; but it always came up instantaneously, even before she had time to lay down the bowl. The story of the avidity with which she drank this gruel I have already disposed of. But, even granting it, it would imply that she every time took a large quantity, to be immediately vomited again; and this she did to quench a thirst, which was much increased by each dose of the gruel, instead of quenched.

What other issue of this sequence of events could be expected by any rational physician than what followed? Cold extremities; forehead and cheeks moist and clammy; respiration impeded; tongue thickly furred like wash-leather, red round the edges; eyes lustreless; cheeks fallen in, countenance anxious, and general expression "cadaverous"; uncontrollable thirst, which had to be gratified, despite the urgency of the retching, vomiting, and hiccup (with other liquids, probably, as the gruel had been discontinued many hours before Dr. Skinner's arrival). She suffered most from a severe burning pain internally, increased on pressure at the scrobiculus cordis, which was tender when touched.

I will not criticise the emetic of warm water; it might have been useful or hurtful. Any person, however, who has ever vomited, or observed vomiting in others, must have noticed that, after vomiting from any cause, the stomach requires to be kept empty for several hours, in order to return to its state of quietness, and tolerate the presence of food. In cases where the vomiting is preceded by long continued nausea, this condition is particularly essential. A woman, or a man, who eats half an hour after a vomiting from what is called sick headache, is almost certain to vomit again, and will continue to vomit as often as the stomach is irritated by the introduction of any article of food or drink, of water, or even of the swallowed saliva; it does not require the introduction of any poison to produce or keep up this condition.

There is no doubt that the patient, after the emetic of warm water, continuing to be nauseated, kept up the irritation of the stomach by half hourly doses of oatmeal gruel and other liquids, thereby foolishly believing herself to be able to quench a thirst, which she had not advice, or intelligence, or self-control enough to suffer for a time as an indispensable condition to the recovery of her stomach. The suggestion of the administration of poison is not wanted to explain the symptoms, but is, on the contrary, quite superfluous.

A little soda-water (carbonic acid is an anæsthetic and special stimulant) and warmth acted so kindly upon the patient, that she was better when again seen by Dr. Skinner and Mr. Marsh. Hydrocyanic acid and ice soon quieted the stomach; beef-tea and port wine *per anum* restored her strength and spirits, which must have been sadly tried by the fatal prognosis, and the legal and clerical visits.

Should anybody think it likely that symptoms produced by oxalic acid, taken in doses sufficient to cause a twenty hours vomiting and retching, could pass off so rapidly as the symptoms in this case, that person's mind will be disabused by the account of the day following the night, on the morning of which she was believed to be dying. Some hours after the vomiting had ceased (so the nurse and the patient stated), involuntary twitchings between the shoulders and back of the neck occurred, which drew the head backwards, and the shoulders against each other. The flexors of the upper and lower extremities showed the same involuntary twitchings, which were frequent, but short in duration, and more annoying than painful. They lasted for twenty-four hours; and now comes the *dénouement*. During the occurrence of these symptoms, a copious flow of dark coloured fluid passed from the patient *per vaginam*. So copious was it, that it saturated the napkin and the bedclothes.

Reading the facts chronologically and rationally, we must say:—A few hours after the cessation of the vomiting and retching, a copious flow of altered blood from the cavity of the uterus took place, during the occurrence of which, which lasted for more than twenty-four hours, the patient had twitches, or rather fidgets. The vomiting and retching had no doubt a great share in propelling the blood through the narrowed or obstructed cervical canal; and, allowing that the discharge may for a few hours have passed unnoticed, it is not straining the evidence to say that the severe symptoms ceased about the time when the discharge began. This sudden discharge of altered blood from an obstructed uterus, after severe symptoms, with immediate and lasting relief, has repeatedly been observed as an element of natural disease, but never as a complication of poisoning by oxalic acid. The twitches are frequent accompaniments of such and other uterine discharges; they often follow spasmodic action of a severer nature, as the sheet lightning succeeds the thunder-storm. They are as different from the painful cramps produced by oxalic acid, as from the spasms of epilepsy or strychnism.

The medical part of the story, therefore, affords no case to go to the jury. It is a clear case of natural disease, every element of which disproves the very thought of poisoning. I will now examine the accusation which Dr. Skinner brings against the domestic attendant of his patient, and will first recapitulate the circumstances of the alleged intended victim; next of the servant, who is accused; then the facts upon which the accusation is based; and, lastly, consider the imputed nature of the imputed crime.

C. W., unmarried, a young, healthy, and intelligent, but unsuspecting female, an orphan, without relations of any kind, friendless, and having no one to inherit her means, which consisted of household furniture, bed and table linen, and *bijouterie*, to the value of about £100. Her means of living are comparatively moderate. She occupies a house for herself, and keeps a female servant. In December 1857, she suffered from inflammation of the cervix uteri; since that time, she has frequently suffered from nausea. The servant was hired about the end of 1857. She is much older than her mistress, and has obtained the upper hand of her. Her appearance is most unprepossessing, and her previous character was bad. She knew the circumstances of her mistress. Up to the time of the last attack of her mistress, there was evidently no complaint against her. But, on the 1st of December, Dr. Skinner began to have "misgivings" about her, and accordingly watched her conduct. On the morning of December 2nd, shortly after 6 o'clock, A.M., she called him to her mistress, who (she is reported to have said) was very ill with vomiting, and just at the point of death. Dr. Skinner arrived at 7, and found the servant cleaning the windows and humming to herself. She opened the door, and told him that her mistress was "bilious"; that she was often complaining that way; that she (the servant) was tired of her place, as her mistress was no sooner well of one thing than she was ill of another, and she was not able to sit up all night and work all day.

If it is considered that the mistress herself, on the previous day, had informed Dr. Skinner that she thought her nausea to arise from the presence of bile in the stomach; and that the patient, according to her own statement, had for two years often suffered from nausea,—the statement of the servant appears essentially true. There is no evidence of criminal intention in anything she said. It is simply what an old, cross, dissatisfied female, having no particular affection for her mistress, might be expected to say after a sleepless night of waiting upon a vomiting person. But she was already suspected, and the person who heard and reports her speech and behaviour is the

suspecting party; and for that relation we must make some allowance, as regards the coloration of the events.

The next portion of the suspected conduct of the servant is that under No. 3 of the Remarks. On various occasions during her illness, but more particularly on the day of vomiting and collapse, the domestic said to her mistress that "she was quite astonished she had not made some arrangement about her affairs, as she could not have long to live". This is one of the data on which the suspicion of poisoning rests; yet, on the same day, Dr. Skinner and Mr. Marsh, having so little hope of her recovery, suggested to her to receive a visit from a clergyman and a lawyer.

The judgment and good-will of the servant and the medical attendants seem to have been at par in this matter, at least. But what the doctor considers as right when done by himself, becomes evidence of criminal intentions when done by a servant who had served her mistress for two years without having given dissatisfaction. Was there anything more natural than that this servant should have had a legacy bequeathed to her by her mistress, who had no one to inherit her means? Could any person make a suggestion less selfish and more clumsy than the remarks which the servant made to her mistress? Can it be believed for a moment that this clumsy person should conceive so intricate a crime as that suggested, and hope to obtain the property of the mistress by the last will of the victim of her poison?

But the data on which the suspicion of poisoning rests did partly not transpire until a day or two after the violent vomiting and collapse. Perhaps the above suggestion of suspicion is one of those late fruits of early thought; perhaps it is also an after-thought.

Under 4, 5, and 6, are enumerated various alleged acts of neglect or disobedience on the part of the servant, by which it is sought to prove her guilty intentions. The domestic allowed the patient to vomit for nearly twenty hours, and called Dr. Skinner only at the repeated request of her mistress. The mistress was bilious; she had been often so; and the servant, during the hours of the night, probably saw no reason for alarm. People also dislike to call the doctor during the night, in December; or to leave a vomiting person, where there is nobody else in attendance. It is more probable still that the servant had no right to call the doctor upon her own responsibility, and that the patient put off giving the order for calling him as long as possible, in order to avoid the increased charge of attendance at night. When she at last gave the order, she probably repeated it impatiently within a short time. The charge of neglect and disobedience is evidently invented after the mistress had been nursed with suspicion, and suspicion had effectually been fastened upon the domestic. Surely no charge of criminal intent can be based upon evidence coming so late from so prejudiced a person as the unsuspecting female must have been after she had learned the apprehensions of Dr. Skinner.

Under 5, Dr. Skinner illustrates the efficacy of his precautions. It will be remembered that on December 1st, "before leaving the patient's house, he began to have misgivings" about the domestic; and, as he could not account for the nausea, so he ordered her (the domestic) to keep anything which might come from her mistress for his inspection. He expected the servant to convict herself; and would no doubt have furnished another illustration to the Æsopian fable of the buck who was appointed gardener, had any act of poisoning really been committed. A moment's consideration will show that the servant could not think the matters vomited by her mistress to be worth keeping. As the person having the upper hand, this small act of discretion of her who had the sole attendance on her hands will easily be allowed. What was vomited consisted of the drinks swallowed the moment before, mixed, probably, with a little saliva and gastric juice. Fifty out of a hundred persons would not have believed themselves to act in accordance with the sense of the instructions of the doctor by keeping these returned drinks of oatmeal, gruel, and other liquids. Besides, it is a question whether the instruction of the doctor, as given above by himself, comprised vomited matters; and whether the servant did not confine her attentions to alvine excretions, both fluid and solid; and by the tenor of the order, and the ordinary use of the language, was not quite right in so confining herself. But, granting it to be wrong, and altogether unexplainable by good natured assumptions—forgetfulness, for example, which the physician so often meets with regarding the self-same instruction in the most straightforward cases—then what can be laid to the door of the servant is neglect and disobedience to the doctor—contempt—anything—but certainly not an intention to conceal a crime. For a crime has yet to be proved; and it is absurd to adduce a circumstance as a proof of concealment of a crime before a crime has been proved to have been committed. Somebody must have been murdered before anybody else can be a murderer.

The next and last suspected act of the servant is that, instead of rice-porridge, ordered by Dr. Skinner, she gave her mistress oatmeal-gruel. This is one of the data on which the suspicion of poisoning rests. There might be some sense in this disobedience, if oatmeal-gruel presented any peculiar facility for administering oxalic acid to other people, if it covered the acid taste of this poison; but, in absence of such peculiar qualifications, we have to search nearer for the reasons of this choice. Here it is. The patient had often been given, by the same party, a somewhat similar gruel before this last illness, which did never more than nauseate. The oatmeal was in the house; the rice had probably to be fetched; the gruel had often been taken before; there was a feeling or prejudice in its favour, or it was taken for the sake of convenience. Rice-porridge would take an hour's careful boiling, oatmeal gruel a quarter of an hour, leaving aside the question whether thin gruel was not more acceptable to a sick person than thick porridge. This unsuspecting female ate or drank a somewhat similar gruel often during two years, and it is not suggested that she on those frequent occasions devoured it with avidity. She deliberately and slowly put into her mouth and swallowed a gruel, after which she felt nauseated, and which, it is now suggested, was drugged with oxalic acid.

This insinuation is so contrary to common sense, and is so evidently an *ex post facto* invention, elicited from the patient by what is technically called a leading examination, that I stand aghast at this defeat of reason by suspicion—nay, by superstition—by one of those unaccountable events which lay hold of the human intellect, and stop or pervert its action. I fully believe Dr. Skinner and Mr. Marsh to be most honourable men, men of integrity and principle; but in this sad case the constellation of public feeling regarding poisoning cases, and of their own exaggerated apprehensions derived from an imperfect study of the literature of late poisoning cases, has led them into a grievous error, by which they missed the true interpretation of a case of natural disease, and, with the best will to protect a supposed victim, they wrongly accused and sacrificed another, who, without means of defence, without even having heard the accusation against herself, is considered as convicted, and punished by a summary discharge. These suspicions will become known; and I question whether it will be possible for this discharged servant to obtain or retain any new employment in her former or any other domestic capacity. For what I know of life, this person will be ruined for the rest of hers; and I should not wonder if, in later years, she should be known among people at Liverpool as an object of execration, pity, or fear.

The accusation against this unfortunate woman may be summed up as follows:—She stands accused; and Dr. Skinner publicly and deliberately accuses her, both in the Liverpool Medical Society and in this Journal, of having on various frequent occasions during the period of two years ending December 1859 administered to C. W. small but increasing doses of a deadly poison called oxalic acid, with intent to do her grievous bodily harm; and of having, on or about December 1st, 1859, administered to the same C. W. such a quantity of said poison as was likely to be suddenly fatal, with the felonious intention of taking away the life of the said C. W. The suggested motive is the suggested desire of the accused to put herself in possession of the property of her mistress, or of a part thereof, be it by persuading her to make a will in her favour, or by other means.

This enormous accusation, uttered publicly and discussed in private, Dr. Skinner considers as proved. He believes his case to be interesting, "because the crime was detected in time to save the victim". Dr. Skinner was bound in law and duty to bring the charge before the tribunals of this country, there to be substantiated or refuted. Above all things, it was his duty to inform the person herself of the accusations against her, whose character he now is executing in public without the knowledge of that person. Dr. Skinner has, in my opinion, laid himself open to the charge of hastiness, at least. If Dr. Skinner can bring himself to see his error, he should quickly and openly withdraw the fearful charge which he has made against a person who, upon the present evidence, is innocent.

With the issue, which all right-minded persons must unite in desiring, I should not regret the occurrence of this case, as it would teach a wholesome lesson to some over-sensitive

members of the profession, who, seduced by the cries of scribblers in our public journals living upon the manufacture of baseless apprehensions, and by the small talk of poison-mongers and the effrontery of incapable analysts, see poison at the bottom of every complicated case of disease which resists their remedies or baffles their attempts at diagnosis. It would teach a lesson, which has been taught in two late notable cases, with increased force; namely, that where poisoning may reasonably be suspected, intrinsic evidence of the existence of poison must be indubitably present, before circumstantial evidence can be allowed to direct suspicion or accusation against any person whatsoever. It would also assist in making the proof of poisoning more dependent upon the finding of the poison either in the body of the victim or in matter derived from him, or in the possession of the supposed poisoner. In this respect, it might restore a *morale* which has been destroyed by the persuasion of blunderers, who shielded their shortcomings by a novel creed, which in its climax amounted to the absurdity that the proof of poisoning consists in the absence of the poison. Let it be written in large letters into every book on poisons, into every mind, that the absence of poison, in cases where it is suspected to be an agency and is deliberately searched for, amounts to a strong proof in favour of the assumption that no such agency was at work.

I cannot conclude without stating that, although the Liverpool case has caused me great commotion of mind, yet I have no desire to be otherwise than courteous and polite to the gentleman who represents it. I wish expressly to disclaim the weakness of animosity, or the desire of controversy with a medical colleague. A strong sense of duty was the propelling power under which I penned this article. I well know the feeling of the profession of this country, as well as the public mind upon the question of secret poisoning. I well know the same feeling of the same classes in three other countries, the most important of the civilised world. Medical men and laymen are everywhere rife with suspicions of poisoning. Two Prussian chemists find conia in a person suspected to have died of poison feloniously administered. The analysts of the government at Berlin find this alleged conia to be a little carbonate of soda. Four chemists, at Vienna, analyse the organs of a person alleged to have died of irritant poison. Two of the chemists find arsenic, but no antimony; the two other chemists find antimony, but no arsenic. These are fitting pendants to the analyses in the Richmond case and the Whitechapel case. Such analyses are more dangerous to the public than the most intricate and clever poisoning, because they tend to destroy innocent people, as well as to insure safety to the real poisoner. Society thus becomes a loser in a two-fold sense.

I would not like to be thought harsh in my opinion upon any errors which have occurred and will occur—I hope at a decreasing ratio—in the practice of every aspiring man, keeping in mind the Hippocratic aphorism, according to which, experience is treacherous and judgment difficult. We should judge every man not only from his deeds but from his *animus* as well. I wish it to be understood that I believe all the above analyses to have been made with the most honest wish for justice, the security of individuals, or, as they are philanthropically called, "society;" but they were not, what a chemical analysis always is, a mathematical proceeding, but a sort of pseudo-chemistry, which, instead of protecting, damaged society, and ruined its practitioners.

Medicine in Australia. The medical profession in these colonies comprises every variety of the *genus* doctor. Without stint or limitation, all comers have been at liberty to embark in enterprises of Esculapian art. Without let or hindrance, all manner of ingenious gentlemen have shaken themselves into the fraternity, and are now reckoned as of the faculty. The exigencies of the community fell too suddenly and urgently upon it to permit a very nice discrimination; and, the moment of distress, when the doctor's services were in requisition, was not the time to investigate his character and pretensions. A doctor was a doctor, whether he had qualified at the university or dubbed himself *impromptu* for the occasion.... His services were in demand, and they were usually handsomely, often profusely rewarded; and whether their performance was beneficial or detrimental to the invalid, was seldom in the reckoning. If the former, it added nothing to reputation; if the latter, it had no effect as a salutary warning to others. (From an article on Medical Reform, in the *Australian Medical Journal*, October 1859).

Reviews and Notices.

The Anatomy of the Human Lung; an Essay, for which was awarded the Fothergillian Gold Medal of the Medical Society of London. By A. T. Houghton Waters, Member of the Royal College of Physicians of London; Lecturer on Anatomy, Physiology, and Pathology, in the Liverpool Royal Infirmary School of Medicine. Pp. 231. London: John Churchill. Liverpool: Adam Holden. 1860.

This work consists of two parts: the first of which is a Historical Sketch, while the second contains the proper subject matter of the essay.

In the historical sketch, Dr. Waters gives an account of the doctrines entertained regarding the structure of the lung by the principal authors who have written on the subject from Hippocrates down to Milne-Edwards. Whenever practicable, he has quoted the words of the authors whom he has consulted; and has thus furnished a very interesting epitome of the literature of the subject.

In the second part, which naturally forms the greater part of the essay, the author describes the structures in the following order: the Pleuræ, Trachea, Bronchi, Substance of the Lungs, Bronchial Tubes, Ultimate Pulmonary Tissue, Blood-vessels, Lymphatics, Nerves, Fœtal Lungs, and Development of the Lungs. The descriptions given are derived from the author's own dissections, compared with the accounts given by previous writers; and the whole bears evidence of great care and industry. He has made special examination with regard to the structure and arrangement of the ultimate pulmonary tissue and the blood-vessels; and we will give an account of his views on these subjects.

A bronchial tube, he says, having entered its lobule, divides and gives off branches, and at last terminates in a dilatation which has opening into it a number of orifices. These orifices lead to canals, which have received various names: such as "intralobular bronchial ramifications" (W. Addison); "lobular passages" (Todd); "intercellular passages" (Rainey); "infundibulums" (Rossignol); "Malpighian vesicles" (Moleschott); "terminal cavities" (Mandl). To these terms, Dr. Waters finds more or less objection; and proposes to use the designation *air-sacs* for the canals in question.

"The air-sacs are those tubes in which the bronchial ramifications end; they are situated at the surface, and thoughout all parts of the lung; they are supported externally by the pleura, and within the lung they in part rest by their extremities, or their sides, against the bronchial tubes, and the branches of the blood-vessels, and through the transparent coats of the smaller bronchial tubes they are visible, as through the pleura.

"The air-sacs consist of somewhat elongated cavities, which communicate with a bronchial ramification by a circular opening, which is usually smaller than the cavity to which it leads, and has sometimes the appearance of a circular hole in a diaphragm, or as if it had been punched out of a membrane which had closed the entrance to the sac; when this is the case, the sac dilates suddenly beyond the orifice.

"The sacs are arranged in groups; they are placed side by side, and are separated from each other by thin membranous walls; their shape, when properly inflated, or when distended by some material which has set in the sacs, such as gelatine, or a mixture of wax and turpentine, is polygonal; they approach very nearly to the circular form, but, in consequence of their mutual pressure, their parietes become somewhat flattened. The sacs increase somewhat in size as they pass from the bronchial tube to their fundus, the latter being usually the broadest part of the sac; but they are often found to have an almost uniform diameter throughout.

"All the sacs pass from the extremity of the bronchial tube towards the circumference of the lobule in which they are placed; they consequently radiate from the tip of each terminal bronchial twig. The sacs connected with one bronchial termination do not communicate with those of another; each set of air-sacs is therefore a little lobule, or lobulette, which, in

fact, represents the entire arrangement of the lung, and is a lung in miniature. As the air-sacs pass towards the boundary of the lobulette, they often bifurcate, and here and there circular orifices exist, which lead to smaller air-sacs, sometimes only to a small group of air-cells or alveoli, so small as scarcely to be considered as a sac. If we trace the sacs from their fundus we may say that, passing from the periphery of the lobulette, and diminishing somewhat in size, they all terminate in the dilated extremity of the bronchial tube. The sacs, as they pass in this manner, often join, two and three together, and these terminate in a single mouth; when this union of sacs takes place, there is apparently a gradual thinning of that part of the wall which lies between those thus joining. The tube which results from the union of two sacs has a smaller capacity than that of the two sacs taken together, but a larger capacity than either of them individually.

"The walls of which the air-sacs are composed are exceedingly thin and much sacculated, *i.e.*, they have in them a number of small, shallow, cup-like depressions, separated from each other by portions of membrane, which are more or less raised, and project into the interior of the sac. These are the parietal alveoli of some authors. The bottom of the air-sacs presents the same appearance as their lateral walls; in fact, the fundus is but the closed continuation of these walls, and the cup-like depressions or alveoli are here very numerous. These are the terminal alveoli of some authors; their number varies very much; I have counted as many as ten at the fundus of an air-sac in a cat's lung; in the human lung I have counted five and six, but the number is not usually quite so great. Close to the bottom of some of these sacs, in the human lung, a circular opening, similar to those already alluded to as leading to other sacs, small, constricted, is often seen, and has the appearance as if it led to another sac; on examination, however, it will be found to be simply produced by a projection inwards of the membrane of the sac, and to lead to a small cavity.

"The number of alveoli existing in the air-sacs varies; in some they are very numerous, in others less so, but in all they are found. Rossignol states that each air-sac (infundibulum) contains from ten to twenty alveoli. My own observations entirely accord with this statement. I have found the number varying from eight to twenty. The sacs, by their fundus, rest, as I have said, on the pleura externally, but within the substance of the lungs they in part rest on, and are supported by, the bronchial tubes and blood-vessels." (Pp. 135-141.)

The air-sacs, according to Dr. Waters's observations, do not communicate, as has been supposed by some anatomists, but are separated by a thin transparent membrane; in which, and in the septa of the alveoli, the capillaries of the pulmonary artery are spread out.

In the chapter on the blood-vessels, there is much that will interest the anatomist; we must, however, draw this analysis to a conclusion, and this can scarcely be better done than by quoting the concise summary which Dr. Waters gives in the concluding two pages of his book.

"The lungs consist of two portions—

"1. That which constitutes the *convective channels*, by means of which the air is carried to and from the true respiratory portion.

"2. *The true Respiratory Portion*—that in which the process of respiration is carried on.

"The first portion is formed of the trachea, the bronchi, and the bronchial tubes.

"The second portion is formed of the terminal dilatations of the bronchial tubes, together with a number of tubes given off from them, to which the name of *air-sacs* has been given, to each assemblage of which the term *lobulette* has been applied; the terminal dilatation of the bronchial tube is, in fact, but the commencement of the lobulette, or the *point de reunion* of the various air-sacs.

"The convective channels consist of cartilaginous rings, muscular and fibrous tissue, and a mucous membrane which is lined by a columnar ciliated epithelium.

"The respiratory portion presents on the parietes of the parts of which it is composed a number of depressions, to which the term *alveoli* has been given; these alveoli exist in the air-sacs, and in the terminal dilatation of the bronchial tubes, and in some animals in the ultimate bronchial tubes, previous to their dilatation.

"The air-sacs and the alveolated portion of the bronchial tubes are lined by a variety of the pavement epithelium.

"The pulmonary artery distributes its blood to the respiratory portion of the lungs.

"The pulmonary veins return the blood which has been distributed by the pulmonary artery.

"The ultimate branches of the pulmonary artery in the air-sacs form the nutritious vessels of the respiratory portion of the lungs.

"The bronchial arteries distribute their blood to the bronchi, the bronchial tubes, the vessels and areolar tissue of the lungs; the branches that enter the lungs pour their contents into the pulmonary veins.

"The bronchial veins return the blood which is distributed to the structures about the roots of the lungs.

"The lymphatic vessels of the lungs form two sets, a superficial and deep. The former are found at the surface of the lungs; the latter chiefly accompany the bronchial tubes.

"The nerves of the lungs are derived from the pneumogastric and sympathetic; branches are distributed chiefly to the bronchial tubes, but some pass to the blood-vessels and to the surface of the lungs; some apparently are lost in the pulmonary tissue.

"The air-sacs exist fully developed in the fœtal lung before birth." (Pp. 232-233.)

Until the appearance of Dr. Waters's essay, there had existed no complete monograph, in our language, on the structure of the human lung; and, indeed, the small number of English anatomists quoted in the course of the work, shows that but few of our countrymen have occupied themselves in original investigation of the pulmonary structure. Dr. Waters has filled up the vacancy to which we have alluded in a manner that must be pronounced to be very creditable both to himself and to the institution by which the prize has been awarded to him. Probably enough, some of his views will, on further examination, require modification; but he has in this work shown himself to be such a careful anatomist and industrious observer, that we may safely congratulate him on the honourable position he has attained in our medical literature, and express a sincere hope that we shall again meet with him in the same field.

The Pathology and Treatment of Pulmonary Consumption; and the Local Medication of Pharyngeal, Laryngeal, Bronchial, and Nasal Diseases, Mistaken for or Associated with Phthisis. By John Hughes Bennett, M.D., F.R.S.E., Professor of the Institutes of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh, etc. Second edition, with illustrations on Wood. Pp. 221. Edinburgh: A. and C. Black. London: Longman and Co. 1859.

Dr. Bennett informs us that "the object of this work is, not to give a systematic treatise or a complete monograph on Pulmonary Consumption, but to point out what, in the author's opinion, is the true pathology and successful treatment of that formidable disease." Certainly, if careful and extensive pathological investigation, and large opportunities in the field of public and private practice, entitle a physician to speak on those points, there are few so well qualified to do so as Dr. Bennett. Nor will the reader be disappointed on a perusal of the book—improved as the second edition is by the addition of such knowledge as it has fallen to the lot of the author to obtain since the first appearance of the work in 1853. The pathology is worked out by original researches of the highest value, and illustrated by excellent woodcuts. Dr. Bennett's views, however, are too well known to require a lengthened analysis. All we need do is, to inform our readers that in this second edition of this work, his views are supported by new facts and arguments, and that the whole constitutes a demonstration of the curability of the disease, which merits the deepest attention from every practitioner.

In the preface, Dr. Bennett alludes to the part which he took in 1841 in introducing cod-liver oil to the notice of the profession. We fully agree in the statement of a contemporary, that it is "one of the greatest therapeutic agents of the age—one which has, we confidently believe, permanently extended

our power over the most fatal and the most frequent of human maladies." The book contains excellent instructions on the practical management of cod-liver oil in phthisis, as well as important views on what should constitute a curative as distinguished from a merely palliative practice.

In the present edition, we find a chapter added on the Diagnosis of Pulmonary Consumption, in which attention is especially directed to three points: 1, the diagnostic importance of bronchitic signs as preceding and masking tubercular disease of the lungs; 2, the diagnostic value of a microscopic examination of the sputum—cases being given in which lung-tissue from pulmonary ulceration was thereby detected long before any evidence of the disease was furnished by auscultation; 3, a clinical investigation into the diagnostic value of the cracked-pot sound (*bruit de pot fêlé* of Laennec), derived from the careful examination of a hundred cases, and shewing that this physical sign is not indicative of a cavity, but may be present in various conditions of the lungs, and even when these organs are quite healthy. An epitome of Dr. Bennett's views on these three points was published at page 313 of the Association Medical Journal for April 19th, 1856.

Dr. Bennett's testimony adds confirmation to the statement that phthisis, even in an advanced stage, may be permanently cured by the judicious interference of art. Instances of such recovery, it need scarcely be said, merit the most careful attention, especially as they are becoming more numerous and more generally recognised.

The chapters on local applications to the pharyngeal, laryngeal, bronchial, and nasal membranes, in cases where affections of these parts are complicated with phthisis, contain much new matter. The cases pointing out how obstructions in the nose, with discharge of matter from the fauces and œsophagus, have occasioned phthisical symptoms, and have been cured by local applications, are very interesting.

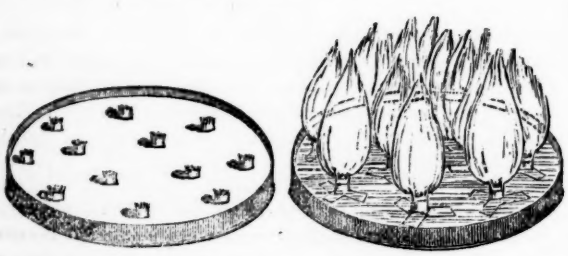
On the whole, this work will not only support but extend the reputation of its author. It is one of the most valuable contributions to the pathology and treatment of phthisis in our language.

Inventions and Appliances
IN
MEDICINE AND SURGERY.

PRICE'S LACONICUM OR AIR-HEATER.

Messrs. Price & Co., at the suggestion of a surgeon, have originated an air-heater with many wicks, as a portable, easily manageable, and cleanly, hot air-bath, to be used in the patient's own room.

The following cut represents it lit and unlit.



The method of use as suggested is as follows:—The patient, having all clothing removed, should sit upon a cane-bottomed chair, upon which a towel has been folded. A blanket placed over the back of the head, should fall over the shoulders; and the two ends should be brought in front; another blanket should then be placed under the chin, the two ends passing over the shoulders, so that the patient and the chair are completely covered in to the ground. The laconicum or air-heater is then lit and placed under the chair, and in the course of five minutes the air is raised to 100° to 110° Fahrenheit, producing, according to the time during which the bath is taken, a more or less profuse perspiration.

The air-heater is made of the purest cocoa-stearine, to avoid smell. In fact, so cleanly is it, that it was used in the Crimea for cooking purposes.

In case the air-heater should meet with the approval of the profession, Messrs. Price and Co. intend selling at one shilling each laconicum in its tin. It will burn one hour, sufficient for two or three baths.

British Medical Journal.

SATURDAY, FEBRUARY 18th, 1860.

PUBLICANS' PORT.

Mr. Gladstone's Budget, however unacceptable it may be to our profession with respect to the increased Income Tax, contains one item which will be received by us all with unfeigned pleasure. We refer to the proposed reduction of duty on French wines. Those who practise among the poor know but too well that the most valuable medicine they can be furnished with is good wine and brandy. In too many cases, their diseases are of an exhaustive character, requiring the aid of stimulants; and good wine is the medical man's sheet-anchor. We rejoice to find that the Chancellor of the Exchequer is fully aware of this fact. In the course of his able speech on the Budget, he thus pleaded the cause of the sick poor as a powerful reason for lightening the duties on French wines:—

"There is a time which comes to all of us—the time, I mean, of sickness—when wine becomes a common necessary. What kind of wine is administered to the poor man in this country? You have got a law which makes it impossible for the poor man when he is sick to obtain the comfort and support derived from good wine, unless he is fortunate enough to live in the immediate neighbourhood of some charitable and rich friend. Consult the medical profession; ask what sort of wine is supplied to boards of guardians in this country; go on board the Queen's ships and see the wine supplied there. Some time ago, I had the honour of being on board Her Majesty's ship *Scourge*, at a time when an accident had happened to one of the sailors. I went to see the man, when he was recovering from the effects of an operation. 'What wine do you give him?' I asked. 'We are forced to give him the wine of our own mess,' the surgeon told me; 'we cannot give him the wine supplied to the Queen's ships.' He insisted on my tasting the ship wine, and certainly it was with great difficulty I succeeded in swallowing part of a glass. Now, this wine is taken out of bond, and pays no duty; but your system of duty vitiates the entire trade; and, except with regard to the higher and most expensive class of wines, makes it almost impossible to obtain a sound or wholesome article."

As long as the pauper poor and the sick sailor were the recipients of the vile compound supplied to them under the names of port and sherry, nobody but the medical officer was at all shocked; but the moment the poison is offered to the august lips of a Chancellor of the Exchequer, and pronounced by him to be undrinkable, the whole House of Commons are astonished, and "my Lords" at the Admiralty are absolutely thunderstruck. Boards of Guardians, whose consciences are rather tougher, we venture to say, will feel no shame, but go on with wonderful calmness ordering South African sherry, and thus

deluding themselves with the idea that they are not neglectful of the medical comforts of the poor.

We have said that wine is the great medicine in the treatment of the poor—the sheet-anchor of the medical man. What if that sheet-anchor, however, in the hour of need, turns out worthless and unreliable? The public are indignant when they are told that the chain-cables supplied to our merchant navy are but too often made of inferior iron; and that, in the hour of peril, the worthless link parts, and sends hundreds of human beings to destruction. But they little know of the thousands of poor creatures who drift into the fatal lee-shore of death in consequence of the spurious wines administered to them in the hour of need. A writer who signs himself "Sitiens", in the *Times* of this week, denounces a practice by which the already adulterated cheap ports are still further degraded by the system adopted in large towns of dividing the supply of the wine for the Poor-law unions among the chief publicans of the place, instead of procuring it from some respectable wine-merchant. In this manner, the very lives of the poor are sacrificed, in order to make matters pleasant for the representatives of the parish. In order to keep the rates down, and to ensure popularity for the guardians, the most trusty weapons of the medical officer are falsified; and, after all, the sordid end is not attained. In many cases, the life of the head of a family, which might have been saved by the timely and bountiful administration of good wine, is sacrificed by the poisonous stuff allowed by the guardians; and the consequence is, that the whole family are perhaps for years fixed upon the parish. We perceive that it is becoming the custom to purchase South African wine for Poor-law unions, under the idea that, although a low priced, it is a pure wine. It is quite true that this wine, as imported, is pure; but very little of it comes to the public. It is bought up by wine-merchants, for the purpose of adulterating higher priced sherries; and a very large proportion of the so-called South African wine purchased by the public is a horrible decoction made in this country. The admission of the cheap light wines of France into this country —and we trust, those of Spain and Portugal also, before long —will do away with the incentive for the falsifications we have spoken of; and the sick poor will be the chief gainers.

THE DEGRADATION OF THE DIPLOMA OF THE COLLEGE OF SURGEONS.

At the time when medical reform was under discussion, it was stoutly urged by its opponents that the various universities and corporations would speedily be found engaged in underselling each other in the value of their examinations; and that the tendency of the different diploma-mongers would be to degrade, step by step, the nature of their examinations, instead of elevating them according to the requirements of the age. As far as we have seen, the Council of the Royal College of Surgeons, the members of which were the loudest in their predictions of evil, have been the first to realise their prophecy. For many months there has been a very uneasy feeling in the profession that this Council, which sits upon the shoulders of the general practitioner with a grip as firm and abhorred as ever the Old Man of the Sea took upon the shoulders of Sinbad, are degrading the value of their diploma by granting it to persons of imperfect and insufficient medical education. This feeling has been strengthened by the granting of the diploma to Messrs. Horton and Meredith; and in various instances which have lately come to the knowledge of the profession, persons have been passed by the College who were not only notoriously incompetent to practise, but were also obnoxious to the medical men of their neighbourhood in consequence of their leaning towards quackery. Again, on the strength of foreign degrees obtained without personal examination, gentlemen have been surprised to find themselves all at once made respectable practitioners by the aid of the College Council.

Protests against this conduct have been and are being made by bodies of medical men in all parts of the country; and the matter has been over and over again discussed by the London Medical Registration Association. So urgent, indeed, were the complaints at the last meeting of that body, that the President, Mr. Fergusson, stated that he should consider it his duty to confer with Sir Benjamin Brodie, the President of the Medical Council, upon the expediency of remonstrating with the Council of the Royal College of Surgeons for their conduct.

We do not for one moment believe that a remonstrance, unbacked by a threat of putting the powers of the law into operation, will have the least effect upon a body of men who have on all occasions proved themselves to be determined to treat the wishes of their mere members with contempt. The only effectual method will be for the united voice of the profession to call upon the Medical Council to put in force Clauses xx and xxi of the Act, which provide machinery for suspending the registration of qualifications granted by any examining body on too easy terms. It may be urged that this is a species of major excommunication, to which the Medical Council, like the Pope, would be very loath to resort. But what other course can be pursued? If nothing else will take effect upon this naughty boy, shall we not proceed to throw stones?

If the Council of the College of Surgeons had one particle of prescience, they must ere this have perceived that their reign is to the last degree insecure; and they ought, by wise concessions to the great body of the profession, to have endeavoured to strengthen themselves against the evil day of reckoning. Instead of this, the more tottering their condition and the more insecure their foothold, the more studied has been the contempt with which they have treated all remonstrance.

The organisation of this Association, which is so admirably adapted to call forth the opinions of the members of the Medical profession scattered over these islands, should, we think, be at once brought into play, in order to compel attention to the demands of the profession. We append a memorial addressed to the Medical Council of the United Kingdom by the practitioners in Reading; and we feel certain that, if every Branch of our Association were to implore the intervention of the Council in the same earnest manner, the Council of the College of Surgeons would be speedily called to account.

To the Members of the Medical Council of the United Kingdom.

Gentlemen,—We the undersigned have seen with great regret, that the Council of the Royal College of Surgeons of England continues to grant its diplomas to candidates who have not passed through the course of education which has hitherto been considered essential, and has in some cases given them to persons whose unprofessional conduct has rendered them unworthy of that distinction.

We agree in opinion, that the Council by these acts has tarnished the honour and dignity of our profession, and that its

diplomas have ceased to guarantee the professional attainments of its members.

The Council has disregarded the protests addressed to it; and we therefore appeal to you to exercise the powers given by the new "Medical Act", and to compel the Council to adopt a course more conducive to the interests of the public, and the honour of the profession.

George May, F.R.C.S.
Edward Wells, M.D.
Thelwall B. Maurice.
F. A. Bulley, F.R.C.S.
W. W. Moxhay.
T. L. Walford, M.R.C.S.
A. J. Moore.
R. T. Woodhouse, M.D.
John Shea, B.A., M.R.C.S.
Charles Vines, M.R.C.S.
Wm. Butler Young, M.R.C.S.
I. Harrinson, F.R.C.S.
John W. Workman.
C. Cowan, M.D.
George May, jun.

Reading, Feb. 11, 1864.

THE STUDY OF THE NATURAL SCIENCES AT CAMBRIDGE.

We rejoice to find that the study of the Natural Sciences is gradually acquiring its proper recognition in the University of Cambridge. A few years ago, a Natural Sciences Tripos was instituted, corresponding with the Mathematical and Classical Tripos. Hitherto, however, the number of candidates has been few, not averaging more than half a dozen in each year, which is attributable partly to the scheme being new, and still more to the facts that no degree is at present granted to the successful candidates, and that a distinguished place in the Tripos has not usually been regarded as furnishing a claim to the fellowships and other prizes in the University. These disadvantages seem to be in the process of removal. Mr. Latham, who was in the first-class in the Natural Sciences Tripos in 1859, being distinguished in chemistry, physiology, comparative anatomy, botany and mineralogy, has just been elected to a fellowship in Downing College; and it is hoped that the good example thus set will be followed in other instances. Moreover, it is now proposed that the Natural Sciences Tripos should be placed on the same level as the Mathematical and Classical Triposes, with reference to the Degree in Arts; that is to say, that the student who has completed the required courses, and has passed the previous examination (in mathematics, classics, etc.) and has taken a place in either of the Triposes, should be admitted to the degree of Bachelor of Arts.

The subject was discussed at a meeting of the Senate on the 9th. Several of those who had acted as examiners bore testimony to the strictness of the examination, and the proficiency of the students to whom places had been granted in the Natural Sciences Tripos. Dr. Paget observed that, though he had the highest opinion of mathematical studies, yet they were not sufficient; they all relate to points which are of a definite kind, and which can be proved to be either right or wrong; whereas, on the questions of Natural Science, a good deal may be often said on both sides, and this exercises the discriminative powers of the mind; and he believed that the man who has passed the previous examination, and has also obtained a place in the Natural Sciences Tripos is, on the whole, better educated than the average of men who go out in the Mathematical or Classical Triposes. Dr. Humphry argued that the several sciences are conducive to each other's welfare, and that no one can be neglected in a University without the others suffering; that, provided a good general basis of classical and mathematical education be ensured, such as is now required by the previous examination, the mental training may be continued through the medium of the natural sciences, as well as by either of the others, and that, therefore, they ought all to be placed upon a par. From the time of Aristotle, natural science had furnished subject for study and improvement to some of the ablest men in every age; and many, including Locke and Berkeley, had trained their minds for the contemplation of metaphysical subjects by the study of natural science. He was most anxious to see the excellent method of teaching which is pursued in the University applied more largely to the subjects of natural science; it would lead to a higher and more philosophical study of those subjects, that kind of study to which there was not much inducement in this practical country, and so would tend to dispel the quackeries and nonsenses which are ever arising like pestilential mists, and stifling the good sense of the people.

We quite agree in these sentiments, and heartily wish success to the proposal; believing that it would have a direct and beneficial influence upon the study of medicine in the University, and so, more or less, throughout the country. The motion is to be submitted to the vote of the Senate on Thursday next.

JUSTICE IN A CORONER'S COURT.

An inquest took place at Exeter a short time since, in which a member of the medical profession received what we consider to be very unfair treatment at the hands of the coroner and jury. The principal witness, a man named John Lane, deposed that his wife was taken ill on the preceding Tuesday; and that early on Thursday morning, in consequence of her being taken worse, he went to the house of Mr. S. Perkins, a surgeon, requesting him to come directly. Mr. Perkins, it was alleged, refused to come, on the ground that Lane and his family had been attended by another medical man named Roberts. The witness further stated, that he had thereupon summoned another surgeon named Hunt, who had also declined to attend. He then applied to Mr. Roberts, who came to his wife. In the meantime, however, Mrs. Lane had been delivered, in the sitting posture, of a six months' child, and had died—from, it was thought by Mr. Roberts, exhaustion. In answer to a question from one of the jurors, the coroner said that a medical man was not legally bound to attend a patient when summoned; but that whether there was a moral obligation, was another question. The jury, Mr. Perkins not being present, returned the following verdict:—

"The jury are of opinion that the deceased died from exhaustion, caused by premature delivery; but they cannot separate without expressing their approval of the highly praiseworthy conduct of Mr. Roberts in attending directly he was called upon, and of the great and unfeeling neglect exhibited by Mr. Perkins, as the medical man of the family, in refusing to attend the deceased when asked to do so."

While the verdict was being signed, Mr. Perkins entered, and stated that he had then for the first time heard of the inquest. He also made a statement of facts, on hearing which one of the jurors thought the verdict ought to be altered; but the coroner would not allow this, as several of the jury had left the room. Mr. Perkins has published a letter in the *Exeter Flying Post*, in which he states that, "had he been informed that the case in question was one of danger or urgency, he should have unquestionably attended; but in the absence of such evidence, he did not consider himself called upon to obey every summons that might be made at any hour of the night. Formerly he attended Lane's family; but for nearly seven years, with one trivial exception, until December last, he had never prescribed for any member of the family; and during that period they had employed another surgeon, both for *labour* and general sickness, who has never been paid any remuneration."

Mr. Perkins was treated with most unjustifiable want of common justice in this affair. He was condemned unheard, without having opportunity of defending himself until too late.

Association Intelligence.

LETTERS AND COMMUNICATIONS.

Letters or communications for the Journal should be addressed to Dr. Wynter, Coleherne Court, Old Brompton, S.W.

Letters regarding the business department of the Journal, and corrected proofs, should be sent to 37, Great Queen Street, Lincoln's Inn Fields, W.C.

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
Bath and Bristol. [Ordinary Meeting.]	York House, Bath.	Thurs., Feb. 23rd, 7 P.M.
Metrop. Counties. [Adjourned Special General Meeting.]	37, Soho Square.	Friday, Feb. 24th, 4 P.M.

Reports of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, January 24th, 1860.

F. C. Skey, Esq., F.R.S., President, in the Chair.

OBSERVATIONS ON STERTOR, AND ON THE VARYING CONDITIONS UPON WHICH IT IS DEPENDENT; WITH THE TREATMENT NECESSARY FOR ITS RELIEF.

BY R. L. BOWLES, ESQ.

Mr. Bowles commenced by stating that in the majority of instances he had found from experiment that stertor arose from one of three conditions: 1st, from paralysis of the velum palati; 2nd, from the paralysed tongue lolling back in the throat; 3rd, from the presence of mucus in the pharynx and air passages. His attention was first attracted to this subject when assisting Dr. Marshall Hall in elucidating the subject of artificial respiration on the dead body. It was found that the position of the body invariably influenced the relations of the tongue,—namely, that in the prone position it fell forwards and away from the pharanx; whereas, when the body was supine, it fell back towards the pharynx, and would form a serious obstacle to the passage of air into or out of the trachea. It was also observed that mucus or fluid ejected from the stomach tended to drain away in the prone position, and to remain in the back of the pharynx in the supine; and this would greatly increase the danger of apnœa in the latter. The author stated that in November, 1857, he was called to a case of apoplexy, in which coma and stertorous breathing had persisted for some hours; the patient was wholly unconscious and uninfluenced by external impressions, and the pupils were contracted and immovable. Whilst watching the case, some fluid was ejected from the stomach, which lodged in the pharynx, and would have caused death by suffocation had not the patient been quickly turned on her side, and the fluid allowed to drain away. In this position the stertor entirely ceased, but on resuming the supine position it returned as loudly as before. The experiment of change of posture was tried several times, and always with the same result; and, what was equally remarkable, the general symptoms were greatly modified after the lateral position had been maintained for a few minutes: the pulse became calmer, the skin cooler and less bedewed with moisture, the eye sensible to the touch; and the general sensation returned to such an extent that the patient evinced signs of discomfort at the removal of a mustard poultice. In a case of epilepsy in which stertorous breathing had supervened, the moment the lateral position was assumed the stertor ceased, and the patient very soon became conscious, and recovered. Other cases were related, all of which tended, with the foregoing, to demonstrate—1st, that the paralysed tongue *may*, under certain circumstances, cause even death by suffocation; 2nd, that stertor arises from the tongue falling back in the supine position of the body, so offering a serious impediment to the respiration; 3rd, that mucus (another respiratory impediment) drains away when the patient is placed on the side; and 4th, that great improvement of the general symptoms follows the establishment of easy breathing in the lateral position.

The anatomy of the parts was then referred to; and it was shown that the pharynx, having only a fixed boundary posteriorly, may have its capacity materially altered by the ever-varying positions of its sides, of the soft palate, the tongue, and the larynx. With the closed mouth, the tongue cannot, in the majority of cases, reach the back of the pharynx, as it is fixed to the inside of the symphysis of the jaw; but when the jaw drops, the symphysis describes the arc of a circle, and approaches very nearly to the spine, thus allowing the tongue to come in contact with the posterior wall of the pharynx.

Diagrams of some dissections were shown, to illustrate the position of the tongue and epiglottis in the various positions of the jaw and of the body. If the chin be bent upon the sternum by raising the head with pillows, the tongue will lie in dangerous proximity to the pharynx, even if the mouth be closed.

Stertor was divided by the author into the three following varieties:—

1. Palatine stertor. In this, if the mouth be closed, the soft palate is pushed upwards and backwards by the base of the tongue, and thus narrows the opening between the palate and posterior wall of the pharynx. If the mouth be open, the velum palati drops upon the tongue, and vibrates as the air rushes between it and the tongue.

2. Pharyngeal stertor, which is the most frequent in apoplexy, and by far the most dangerous. This variety depends upon the base of the tongue dropping back into the pharynx, and acting as a serious impediment to the passage of air; it occurs when the mouth is wide open, and is a harsher and sharper noise than either of the other varieties.

3. Mucous stertor, which depends upon the presence of mucus in the bronchial tubes; it may exist alone, or in combination with either of the preceding varieties.

A case was related, to show that palatine stertor, with closure of the mouth, may accompany deep coma: but it was considered that it was the rule for persons in deep coma to breathe through the mouth, and for this reason: the muscles of the jaw being paralysed, the jaw drops and opens the mouth; whereas, the dilators of the nose, being also paralysed, the alæ nasi are forcibly drawn by the in-going air towards the column of the nose, and thus close the orifice of the nares altogether.

With reference to the importance of stertor, the author remarked that the impediment to the entrance of air into the lungs, as it tends to retard the flow of blood through the veins, might very possibly be the first step towards death in cases of apoplexy with degeneration of blood-vessels, or fracture with laceration of the sinuses or vessels of the brain; for the blood would make its way, where there was least resistance, through the wounded or ruptured vessel. If, however, there were no obstruction in its natural course, it would more probably follow that than turn aside through an opening, in which perhaps a coagulum had already formed. Besides the ultimate dangers which might result from a persistence of stertor in apoplectic and similar conditions, the more immediate dangers of the supine position were pointed out—*e. g.*, 1st, fluids or other foreign matters making their way into the larynx from the mouth or stomach; 2ndly, the falling back of the tongue, causing sudden and complete apnœa, which may occur in all cases of paralysis, whether from syncope, apoplexy, concussion of the brain, chloroform poisoning, suffocation from carbonic acid or drowning; for if a disaster arise from any of the above conditions, the patient is almost invariably laid flat on the back.

The paper was concluded by the relation of a case, by Mr. Lewis, of Chester, of profound coma supervening upon several severe attacks of epilepsy, following each other in quick succession. When the patient was seen, the pupils were contracted and insensible; the pulse small, weak, and irregular; the surface pale, with cold clammy perspiration; breathing irregular, slow, and extremely laborious. The stertor was very marked; very little air seemed to enter the lungs; the cheeks were puffed out during expiration. The patient was placed well over on his side. There was an immediate flow of saliva from the mouth, followed by a considerable quantity of saniomucous fluid. The breathing instantly became more free, and in less than a minute all stertor had ceased. The other symptoms gradually subsided, and in an hour's time, the bowels having been acted on by croton oil, there was a partial return to consciousness, and the next day the patient was walking about the wards of the asylum.

Editor's Letter Box.

POOR-LAW MEDICAL REFORM.

LETTER FROM JOHN JONES, ESQ.

SIR,—I observed with much satisfaction the notice contained in the JOURNAL of the British Medical Association of the 4th instant, of the scheme of a new Poor-law Medical Bill, proposed by Mr. Griffin; and, with certain modifications, I sincerely hope it will receive from Parliament a favourable reception.

It is notorious that the present state of the law with reference to the medical attendance on the poor is lamentably defective; and any attempt to improve it must be hailed with great satisfaction, not only by the medical profession generally, but by every humane person in the kingdom.

The defects of the present system are—

1. It fails in affording just remuneration for the services of medical officers of unions, and consequently causes constant and often disgraceful disputes between them and the boards of guardians.

2. It requires, with few exceptions, that the medical officer shall find his own medicines; whereby an inducement is held out to be as sparing as possible in administering suitable remedies, particularly if they should be expensive. Thus the interests of the medical officer and that of his poor patient are opposed to each other. If he performs his duty faithfully to his patients, he feels that he is not only inadequately remunerated for his services, but that, without care, he might be subject to actual pecuniary loss. If he consults his own interest by endeavouring to make his office remunerative, he must do so at the expense of the poor committed to his care. Thus, instead of mutual kindness existing between the doctor and his patient, a state of antagonism is produced, which is greatly to be deplored.

3. More work is often assigned to the medical officer than can possibly be performed by one individual; and thereby he is placed in a most unenviable position—getting blame and obloquy for neglect and inattention to his patients, when the fault is not so much in him as in the system in which he is employed as an agent.

To remedy these evils, I would urgently recommend, to be embodied in Mr. Griffin's scheme, that dispensaries should be attached to every union in the kingdom, and that in no case should the medical officer be required to find his own medicines, which should be provided by the board of guardians through the dispensary; and the medical officer should only be required to provide surgical instruments for his own purposes.

In accordance with this suggestion, I would propose the following, instead of the twenty-fifth proposition in Mr. Griffin's scheme.

That every union shall be required to have a dispensary attached to it, with a resident dispenser, and situated in the most suitable place for the convenience of the medical officer and the union generally; and that in no case shall the guardians be allowed to enter into a contract with a druggist for the supply of medicines and dispensing them to the poor, but shall find them only through the dispensary belonging to the union, and have them dispensed by their resident dispenser, who shall not be a visiting medical officer, but shall make up the medicines in accordance with the orders of the medical officer.

The following are some of the advantages which would be secured by the establishment of union dispensaries:—

1. The remuneration of the medical officer, being without any drawback, would be a specific salary; and candidates for medical union appointments would be enabled to form a more correct estimate of the value of such appointments, so as to feel assured they could conscientiously perform their duties to the sick poor committed to their care, without risking pecuniary loss, which, under the present system, must frequently be the case.

2. The medical officer would be relieved from the imputation, to which he is now subject, of refraining to give his patients suitable remedies on account of their expense.

3. The medical officer, having only to prescribe for his patients, would have more time to attend to them, and would feel that he could perform the duties of his office with more satisfaction to himself and efficiency to his patients.

I am, etc., JOHN JONES, M.R.C.S.Eng.

Derby, Feb. 14, 1860.

POOR-LAW MEDICAL REFORM.

SIR,—Through your pages may I say a word to my fellow-sufferers? I had almost wished that the word applied to all of us; but there are some amongst us so well off, getting their £100 to £200 a year, that they stand aloof from Mr. Griffin and his untiring efforts, fearing, I presume, that in any change they may get less than at present. Deeply do I grieve that this feeling of private interest should preponderate over the general good; but the fact is undoubted, that hitherto the best paid medical officers of the Poor-law Board have not joined the Reform Association; and though it may appear uncharitable, yet what other conclusion can we arrive at? There is time for them yet to alter; and I urge them without delay to make common lot *with* their brethren, rather than *against* them.

I urge all alike to forward the efforts of Mr. Griffin and those associated with him, by money, by sympathy, and by petitions. The latter can be easily performed, where money cannot be spared. I wish to bring before my country brethren a means of increasing this. If they are on anything like fair terms with the residents, they may each in their several neighbourhoods get up petitions from each parish; I have several such in progress now. Let them take the clergyman of the parish into their councils, and he will not only sign, but get many ratepayers to do so also. Recollect, further, that *numbers* of petitions are of greater importance than the *number* of signatures. Work, work, work! and do not let any official anxious to assist us say, with the late President of the Poor-law Board, that there was not sufficient union amongst us.

I am, etc.,
A MODERATELY PAID MEDICAL OFFICER.

February 1860.

THE SIGNIFICATION OF MYALGIA.

LETTER FROM C. H. JONES, M.D.

SIR,—Dr. Inman, in his paper in the number of the JOURNAL for February 5th, considers that some observations he has made as to the condition of muscles produced by excessive exertion completely disprove the opinion I had expressed that the pains of myalgia are indicative only of debility in the muscular nerves, and are the equivalents of common neuralgia in the sensory, being, indeed, themselves neuralgia of such nerves supplying muscles. Without in the least undervaluing Dr. Inman's observations on the physical condition of overstrained muscles, I am yet unsatisfied that the myalgic pains which he has so ably investigated and taught us to observe are dependent on such alterations as he describes. I will state but one argument, which appears to me conclusive. Both he and I doubtless well remember the results of a first day's cricketing, rowing, or pedestrianising—how stiff, and sore, and aching, we were next day, or for two or three after. He will agree with me that the best cure for this is not rest and abstinence from the oar and bat, but a daily repetition of the dose, till the muscles and nerves gain tone and strength, and come at last to be able to do much more than at first without any inconvenience. Now, on his view of ruptured muscular fibres and capillaries, the subsequent work ought only to aggravate the mischief, instead of curing it. In fact, if anything like an actual strain or sprain has taken place, it does so. No doubt poor puss's muscles were in the latter state. The difference between the myalgic muscle and the injured muscle would be in this, that the latter could not act at all without pain, whereas the myalgic could act so for some short time, until it became fatigued. I am, etc., C. HANDFIELD JONES.

London, Febrbary 11th, 1860.

HOW IS THE PERINÆUM BEST GUARDED DURING LABOUR?

SIR,—I trust I need not appeal in vain through your columns to the kindness and liberality of such of our associates who enjoy a large obstetric practice, for counsel and advice in the difficulty involved in the following question. Often, despite the utmost care, I have failed, under great chagrin, in preserving the parts entire.

What has been found the best and most successful method of guarding the perinæum, principally in cases of first parturition; and of facilitating the birth of the head, in those cases where there is a dry and unyielding condition of the vagina and external parts? I am, etc., ALIQUIS.

January 30th, 1860.

MEDICAL ETIQUETTE.

Letter from W. W. Thomas, Esq.

Sir,—The following is a literal copy of a letter written by a surgeon residing in this town. It was forwarded by him to the Llanfyllin Board of Guardians, with the evident intention of injuring me. Unfortunately, prior to my being called in, the patient alluded to in his letter had been attended by another medical man (at Congleton, Cheshire, I think), or I should otherwise have taken legal proceedings against him. If it will not occupy too much space, I would feel obliged by your giving it publicity.

I am, etc., W. W. Thomas,
Deputy Surgeon to the Llanfair District.

Llanfair, Montgomeryshire, February 6th, 1860.

To the Magistrates and Guardians, Llanfyllin Union.

This is to certify That I've attended Ann Jones, of Bryn Bitfold since the 28 decr last. I found her hand and fingers in a state of mortification. The former treatment. Treatment was the cause of the mortification and loss of 3 of her fingers. The sufferings of The poor Girl was beyond discription from the neglect of placing The Hand on a splint and her life was allmost dispaird of when I first saw her. and The stentch was awfull with the most prompt attention I've been able to reserve the sufferer from premature grave. And If The Parents had not complied with my request to give her Wine, she would have died Then, but under Gods blessing I allayd the pain and stayd the mortification, but not till 3 of her fingers were previous to my visit were hopless of restoration. from a Treatment That I deem not worthy of our Profession. I am glad to state now This Ann Jones is recovering, but she will require more extra support for 3 weeks or a month. The mortification destroyd the tendon of The forefinger which had no injury on it and noon of her hand or fingers ought to be allowd to mortify had The been placed on a splint with a proper treatment for The hand.

P.S. I am sure That If I had her hand at first, she would have had her hand and fingers all restored and able to get her livelihood. Three of her fingers I have been oblige To remove last week. Yours &c

I Rowland Surgeon &c.

Llanfair Cerinion 30th January 1860.

DR. BARKER AND MR. CHAVASSE.

Letter from E. Daniell, Esq.

Sir,—As a member of the Committee of the South Midland Branch of the British Medical Association, I cannot avoid saying a word relative to the resolutions in your last number bearing on the case of Dr. Barker of Bedford.

I think it but correct to say that I proposed a rider to those resclutions, conveying an explanation that, subsequently to those resolutions having passed at Wellingborough, we had discovered, in the first edition of Dr. Barker's book, he had acknowledged, in a foot-note, Mr. Chavasse's claims. In the second edition, this recognition was accidentally omitted, but without the least intention on the part of Dr. Barker.

I have, however, gone further in order to ascertain whether, in the manuscripts sent by Dr. Barker to Dr. Richardson for publication in the *Sanitary Review*, and from which this second edition was a reprint, the same recognition was made. I have consulted Dr. Richardson himself on this point, and have obtained from him an affirmative answer. I state this on my own account; but I shall be obliged if Dr. Richardson will kindly confirm it in your pages.

I cannot conclude without correcting an error—I am quite sure unintentional—viz., that the resolutions passed at Wellingborough were *unanimously* confirmed at Northampton. For my own part, I begged to decline voting on the subject.

The rider, I fear, was too late to be sent to the Journal last week; but I hope to see it inserted in this week's number.

I am, etc., Edward Daniell.

Newport Pagnell, February 13th, 1860.

DR. BARKER AND MR. CHAVASSE.

Letter from J. Stephenson, M.D.

Sir,—It was with pain and surprise that I read in the Journal of last week the resolutions of the Committee of the South Midland Branch in reference to the case of Dr. Barker and Mr. Chavasse. Some years ago, I lived with Dr. Barker, as his assistant; and some of my happiest days were passed under his roof. Knowing him well, therefore, I hesitate not to say that he is incapable of anything so dishonourable as the error with which he is charged; and no resolution of any Committee could for one moment lead me to believe him to be so. I was highly gratified to observe, on visiting Dr. Barker about two years since, that he was rapidly succeeding to the consultation practice of county extent, for which his talents and attainments so well qualify him, and which was so long enjoyed by the late Mr. Hurst, whose friendship I had the happiness of possessing.

It is confessed that Dr. Barker has yielded a little in this case to his natural haste and excitability of disposition; but of the graver charge very few indeed consider him guilty. Greatly admiring the tone of your leading article and the several letters which have appeared, I am indignant at the extreme course that has been taken by the Committee of the Branch which Dr. Barker founded, and for which, as I can testify, he often laboured hard. I submit to you whether it can conserve the interests of the Association for any Branch thus to endeavour to hound to death, after his apology and in face of the feeling of the profession, the well earned reputation of such an associate?

It is but a few months since a testimonial timepiece was presented to Dr. Barker, graven with the names of his meteorological friends. Let him know that hundreds, who have called themselves his friends for years, acquitting him of the charge of intentional plagiarism, will not allow the decision of the South Midland Branch Committee to alienate their friendship and attachment.

I could not be satisfied, did I allow another Journal to appear without offering this hastily written but full-hearted testimony.

I am, etc.,
John Stephenson.

Great Yarmouth, February 15th, 1860.

DR. BARKER AND MR. CHAVASSE.

Letter from Henry Dayman, Esq.

Sir,—In common with many of Dr. Barker's friends, I have been waiting, in the hope that the committee of the South Midland Branch might think fit, on reconsidering all the circumstances, to reverse their decision on Dr. Barker's case.

The committee having now confirmed the resolutions under which he has been compelled to resign his membership of the South Midland Branch, there appears to me but one course open to Dr. Barker; namely, to leave the whole matter as it stands in the hands of his friends.

Whatever may have been the original merits of the case upon which the committee of the South Midland Branch founded their resolutions, it is obvious that Dr. Barker's claim to the sympathy of the Association at large rests now on a totally different footing. Your own excellent and conciliatory remarks, which have been already endorsed by the letters of three gentlemen of distinction in our ranks, tend to shew that Dr. Barker has sufficiently vindicated his character as a gentleman. Whether he has done so or not, a jury of Dr. Barker's friends will at once proceed to determine by a thorough investigation of the whole question.

I am, etc., Henry Dayman.

Millbrook, Southampton, Feb. 13th, 1860.

DR. BARKER AND MR. CHAVASSE.

Letter from James Williams, M.D.

Sir,—It may be late in the day to address you upon the subject of the dispute between Dr. T. H. Barker and Mr. Chavasse; but even *now*, as a member of the South Midland Branch, and a fellow-worker in it from the earliest hour of its existence, I must confess myself anxious to add a few words upon the subject—more particularly since reading the decision of the Committee held at Northampton on the 3rd inst.

After the noble sentiments uttered in your leader accompanying Dr. Barker's explanation, I had hoped that the matter in dispute would have been satisfactorily settled—if not from personal considerations, for the good of our common profession. Again, in the Journal following, we find Dr. Heygate and Dr. Cowan eloquently advocating the expediency of Mr. Chavasse's acceptance of Dr. Barker's apology and explanation; and Mr. Watkin Williams (one who had signed Mr. Chavasse's manifesto against Dr. Barker) acknowledging the

fullest satisfaction with Dr. Barker's defence. I have followed with pain and regret the various steps of this painful business; and though I do not justify Dr. Barker's angry reply to Mr. Chavasse, still I say, when all the aggravating circumstances under which the attack was made, not upon Dr. Barker, but *upon his wife, in his absence from home*—and that not by a layman, but a *professional brother*—I do, in a great measure, excuse Dr. Barker, or any one else of a less ardent and energetic temperament than I know him to possess.

Can any one imagine the author of more than one prize essay, and of the eloquent appeal on behalf of the Medical Benevolent College (which has been several times reprinted, at the request of the founder of that valuable institution)—can any one, I say, imagine it necessary for Dr. Barker to make a piracy of a few common-place rules for the management of infants, in order to give value to his able work on the subject?

I have had the pleasure of knowing Dr. Barker intimately some years, but it needs no testimony from me to his generous disposition and unselfish labours in the cause of true science, or his ready aid, and the cheering sympathy extended by him to all his fellow-labourers, in the too often unrewarded search after truth. I remember the kindly aid he lent to the late lamented Dr. Dick in his efforts to establish a medical and surgical Association for Bedfordshire alone, though at the time (1854) we felt, that unless it were connected with the parent association, it would not succeed. And finding one of the late Committee engaged upon this painful dispute to be no other than the author of the eloquent little essay upon *The True Characteristics of Professional Life*, I cannot refrain from quoting a few lines from page 7, bearing as it does so strikingly upon the necessities of the case:—

"'Do unto others as you would they should do unto you.' In all *necessary* censures on the conduct of others, he will be gentle, kind, and forbearing, for the principles of his sacred religion have taught him that human nature, in its best estate, is still *weak*, and *full of errors*. Who is so virtuous that hath not some vice? Who is so vicious that hath not some virtue? If your code of ethics were as voluminous as the Talmud, the simple precept, 'Do unto others as you would others should do to you' would embody the whole; it speaks to human nature in a spirit of enlightened selfishness, and human nature is compelled to bow its head in token of acquiescence."

I may be told that this Committee were the best judges of the matter referred to them; but I may fairly assume that Dr. Wynter, Dr. Cowan, Dr. Heygate, Mr. Williams, and myself, are just as good judges of the facts as any other five members of the Association. It is not a local matter; and, as a member of the South Midland Branch, I would refer the subject to a *general* committee of arbitration. I feel grieved by the decision of the local committee, the absence of all elevated views, and the apparent want of Christian charity evidenced in their cold, measured sentences, without one word of regret. Verily "a prophet has no honour in his own country." Though Dr. Barker may cease to be a member of the Branch, I earnestly hope he will bring the whole matter before a general committee of the parent Association, and not quietly sit down content with this adverse decision of a small minority of his professional brethren. I am, etc.,

James Williams, M.D.

Malvern, Worcestershire, February 13, 1860.

Parliamentary Intelligence.

HOUSE OF COMMONS.—Thursday, February 9th, 1860.

Mortality on Board the "Accrington". In reply to Mr. Alderman Salomons—

Mr. C. Fortescue stated that some information had been received from Her Majesty's Consul at Pernambuco with regard to the sickness and mortality on board the ship *Accrington*, which left Liverpool for India on the 30th of last September, with the wives and families of soldiers, but that full particulars had not yet arrived. It was evidently a most calamitous case, and the facts were briefly as follows:—that when the vessel reached Pernambuco, it was found a very large mortality had taken place among the children. The captain, who had been generally accused of having been guilty of tyranny and oppression towards the emigrants, was also dead, as well as his chief officer, and there was reason to suppose that they had been poisoned by some party on board. A full and rigid inquiry had been instituted with regard to the excessive mortality which had prevailed, and the deaths of the captain and mate were being investigated as a case of murder. It was due to the Emigration Commissioners to state, that the *Accrington* was not one of the regular vessels under their charge, that it was chartered to carry the families of soldiers to India as part of the task undertaken by the Commissioners at the request of the War Department, and that the Commissioners did not possess authority to restrict the number of children and emigrants to be placed on board. They had to take the emigrants as they found them, and the consequence was, that out of some sixty-seven deaths which had occurred before the vessel reached Pernambuco, sixty were those of children under four years of age.

Tuesday, February 14th.

Wine and Drugs for the Navy. Lord C. Hamilton inquired of the Secretary to the Admiralty whether the attention of the Board had been directed to the quality of the wine supplied to the navy for medical purposes, it having been described as unfit for the use of invalids, although exempt from duty. And also, whether he could give an assurance to the House that the drugs supplied to the navy were not of an equally adulterated and deleterious description.

Lord C. Paget stated that the drugs were supplied to the navy from Apothecaries' Hall, and were consequently of the best quality. With regard to the wine the government had heard no complaints from the ships, but the statement of the Chancellor of the Exchequer had caused some little sensation at the admiralty, and they were making inquiries into the subject.

The Medical Acts. Mr. Whiteside obtained leave to bring in a Bill to amend the Medical Acts.

Street Cabs. Mr. Griffith gave notice that on Friday next he should call attention to the use of street cabs for the conveyance of sick people to hospitals.

Wednesday, February 16th.

Adulteration of Food. Mr. Scholefield, in moving the second reading of this Bill, explained that its enactment merely went to the giving power to a purchaser to submit suspected articles to an analyst, whose certificate should be evidence, if no other was presented.

After a few words from Sir G. Grey, the Bill was read a second time.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of sons, the wives of—

*Hare, H. C., Esq., Cawood, Yorkshire, on Feb. 5.
Leman, F., Esq., Surgeon, Teignmouth, on Feb. 12.
Maclean, John, M.D., 24, Portman Street, W., on Feb. 10.
Penhall, John, Esq., Surgeon, Hastings, on Feb. 10.

Of daughters, the wives of—

Burton, Joseph S., Esq., Surgeon, Blackheath, on Feb. 13.
Kidd, Joseph, M.D., Blackheath, on Feb. 11.

MARRIAGES.

Bridges, John H., M.D., late Fellow of Oriel College, to Susan, fifth daughter of the Rev. C. M. Torlesse, vicar of Stoke-by-Nayland, on February 7th.

Clifford, J. J., Esq., 9th Royal Lancers, to Maynard M., widow of the late J. M. Hay, M.D., at Cookham Dean, on February 9th.

Paterson, James, M.D., Partick, to Ellen, third daughter of the late Thomas Chapman, Esq., London, at St. Dunstan's-in-the-East, on February 9th.

Ward, Joseph H., M.D., son of *J. Ward, Esq., Epsom, to Eleanor, youngest daughter of F. J. King, Esq., at St. Peter's, New Town, Sydney, on November 22nd, 1859.

DEATHS.

Kimbell, John, Esq., Surgeon, Knowle, Warwickshire, aged 62, on February 7th.

Stevens. On February 11th, at Rushton, near Leek, aged 41, Anne M., wife of N. H. Stevens, Esq., Surgeon, of Finsbury Circus.

Tourette, C., M.D., at Mauritius, aged 30, on Dec. 17, 1859.

PASS LISTS.

Royal College of Surgeons. Members admitted at a meeting of the Court of Examiners, on February 10th:—

Adams, Wm. J., Banchory
Bird, John D., Stockport
Dowd, Charles, Camberwell
Grierson, S., Kirkcudbright
Quicke, John M., Milbrook, Southampton
Mackenzie, W. J., Greenwich
Matterson, R. T., Leeds
Porter, L. J., Birmingham
Simpson, Frank, Whitby
Wilton, John, Australia

Apothecaries' Hall. Licentiates admitted on *Thursday, February 9th*, 1860:—

Bloor, John T., Tutbury
Freeman, Delamark, E. Indies
Wither, Francis O. B., Basingstoke

The following gentlemen also, on the same day, passed their first examination:—

Russell, George I., Gravesend
Thomas, David B., Newcastle Emlyn

INDIAN MEDICAL SERVICE.

The subjoined petition is copied from the *Indian Lancet* of December 1st, 1859. It is there proposed to circulate copies for signature among the army medical staff in India.

Unto His Excellency the Right Honourable the Governor-General of India in Council, this the most respectful petition of Her Majesty's Medical Officers in India, humbly sheweth,

1. That on the 1st October, 1858, it pleased Her Most Gracious Majesty Queen Victoria to order the issue of a Royal Warrant greatly improving the position, pay, and general prospects of Her Medical Officers.

2. That, excepting India, Her Majesty's Warrant has been recognised and acted upon in every other country acknowledging British Supremacy; and that Her Majesty's Medical Officers serving in this country, during the time that has elapsed since the publication of the Warrant, have enjoyed none of the benefits of its provisions, not the least of which provide for a much improved status and scale of remuneration.

3. That on account of the exception just mentioned, the position and pay of Her Majesty's Medical Officers serving in India, are anomalous and unsatisfactory. As an example of such being the case, we respectfully beg of your Excellency permission to adduce the following instance:—A Medical Officer in England, or any British Colony, except India, takes precedence, chooses quarters, draws pay and allowances, and sits as President at a Board, or on Committee, according to his relative rank, *which is substantive*, but as soon as he lands with his regiment in India, he loses his position with the pay and other advantages attaching to it, and becomes virtually degraded.

4. That this deprivation injuriously affecting all the members of the Home Medical Department serving in India, presses especially hard upon the Assistant Surgeon who, leaving home with the substantive rank of Captain, and therefore drawing the pay and allowances in full of his relative rank, on landing in this country is recognised and paid only as a Subaltern, drawing nothing but his bare pay; and who is excluded from the enjoyment of all local Staff Medical appointments, excepting two or three Hill Depôts, which of course only a very few out of the many can ever hope to obtain.

5. That more than a year ago the announcement of the issue of the Warrant, which reached India through the English journals, gladdened the hearts of Her Majesty's Surgeons of all ranks then serving in this country, and was hailed by them as a graceful tribute to their worth and services, being dearly appreciated as such, and led them to hope, with confidence, that the expression of Her Majesty's will and pleasure would speedily find its way into the General Orders of this country, as it was certain to do everywhere else.

6. That the health and physical efficiency of the Army of India being entrusted to Her Majesty's Medical Officers, their responsibilities are as grave as their duties are trying, both these implying an amount of labour and anxiety which are in the same ratio as the sickness in this country is, being from three to six times as great as at Home or in most other Colonies.

7. That if, therefore, not to speak of its being deemed as absolutely necessary for ensuring the general well-being of the Army, the Warrant was considered to be the due of men invested with such heavy responsibilities as are those of Medical Officers entrusted with British soldiers in Europe, it will surely be granted that those watching over the general well being of the same soldier in India, and who, being loaded with responsibilities more grave, and duties more severe than their brethren in Europe, are, at least, entitled to equal consideration.

Lastly, that in most respectfully requesting permission to present this their Petition for your Excellency's favourable consideration, your petitioners feel confident that the justice of their complaint will weigh with your Excellency, and result in the early promulgation of the Royal Medical Warrant of October 1st, 1858, throughout the length and breadth of India. And your Excellency's petitioners will ever pray.

Obstetrical Society of Manchester. At a meeting held at St. Mary's Hospital, on the 7th instant, for the inauguration of an Obstetrical Society, an address was delivered by the President, Dr. Ogden, physician to the Hospital. The president enumerated the advantages which would accrue to obstetrics, and an improved obstetric education, from a society of this kind, where the members could discuss cases of importance furnished by the ample store afforded by the Hospital, and by the veterans in the profession in Manchester and its vicinity. An immense amount of experience was lost to the profession, in facts and useful information, in consequence of no medium, such as an obstetrical society affords, being in operation in Manchester, to enable them to give a systematic account of facts relating to midwifery. He gave an interesting account of the important operations performed in the Hospital, which he had witnessed since his election, all of which were performed with an average success quite equal to that met with in the metropolitan hospitals. After wishing the development and progress of the society every success, he paid a high compliment to the patron of the hospital, its honorary president, Dr. Radford, "wishing that he might live long, to enable him to witness the effects of his munificence and ability in raising St. Mary's Hospital to that pinnacle of usefulness and philanthropy, which so colossal an undertaking deserves, and that the members of this society may emulate the patron of St. Mary's Hospital, that the hospital may flourish, and that its scientific records may assist in carrying out the views which this society have a right to expect, and which his colleagues have anticipated, of raising the education of obstetric medicine to an equality with medicine and surgery." The following gentlemen were appointed officers for the year:—*Honorary President*—Thomas Radford, M.D.; *President*—J. Ogden, M.D.; *Vice-Presidents*—J. B. Harrison, M.D.; E. Stephens, M.D.; *Treasurer*—D. Lynch, Esq.; *Honorary Secretary*—H. Runcorn, Esq.

Montpellier Academy of Sciences. At the recent adjudication of the prize offered by the Academy of Sciences and Letters at Montpellier, on the subject of respiratory foods and their transformation within the system, the essay by Dr. Edward Smith, of London, was "crowned," and he has since been elected a corresponding member of the Academy.

Presentation to Dr. Watson. The officers of the *Great Eastern* steam-ship have presented Dr. Watson, who so nobly exerted himself to save the life of their much-beloved commander, with a handsome pipe, beautifully mounted with silver, as a mark of respect and esteem for his general character, and admiration of his conduct on the occasion of the recent melancholy accident in the river Itchen.

HEALTH OF LONDON—FEBRUARY 11th, 1860.

[From the Registrar-General's Report.]

	Births.	Deaths.
During week ..... { Boys..1030 / Girls..991 }	2021	1442
Average of corresponding weeks 1849-58	1721	1306

Among the causes of death were—bronchitis, 217; pneumonia, 144; phthisis, 129; small-pox, 37; scarlatina, 47; measles, 24; diphtheria, 11; hooping-cough, 47. The deaths from pulmonary diseases (exclusive of phthisis) were 401, being 105 above the corrected average.

Barometer:
Highest (Tu.) 29·985; lowest (Wed.) 29·509; mean 29·765.

Thermometer:
In sun—highest (Wed.) 83·0 degrees; lowest (Tues.) 47·0 degrees.
In shade—highest (Wed.) 50·2 degrees; lowest (Sat.) 23·2 degrees.
Mean— 36·7 degrees; difference from mean of 43 yrs.—2·2 degrees.
Range—during week, 27·0 degrees; mean daily, 10·3 degrees.

Mean humidity of air (*saturation* = 100), 81.
Mean direction of wind, variable.—Rain in inches, 0·40.

TO CORRESPONDENTS.

POSTAGE OF MANUSCRIPT AND PRINTED MATTER.

Any amount of manuscript or printed matter, singly or together, provided it contains nothing in the form of a written letter, is transmitted through the post, in packets *open at the ends*, at the following rates:—not exceeding 4 ounces, one penny; above 4 and not exceeding 8 ounces, twopence; above 8 ounces and not exceeding 1 pound, fourpence; for every additional half-pound or under, twopence.

ANONYMOUS CORRESPONDENTS should always enclose their names to the Editor; not for publication, but in token of good faith. No attention can be paid to communications not thus authenticated.

Members should remember that corrections for the current week's JOURNAL should not arrive later than Wednesday.

DR. WYNN WILLIAMS's letter shall appear next week.

Communications have been received from:—MR. HENRY RUNCORN; MR. E. DANIELL; DR. THUDICHUM; DR. C. HANDFIELD JONES; DR. INMAN; MR. R. CEELY; DR. COCKLE; DR. B. W. RICHARDSON; DR. MARKHAM; MR. CHARLES GAFFNEY; MR. H. DAYMAN; MR. J. JONES; MR. J. HINTON; MR. T. M. STONE; MR. G. MAY, JUN.; DR. J. STEPHENSON; MR. W. E. C. NOURSE; DR. A. W. WILLIAMS; MR. JOSEPH WARD; and DR. J. WILLIAMS.

BOOKS RECEIVED.

[* *An Asterisk is prefixed to the Names of Members of the Association.*]

1. On the Organs of the Senses, and the Cerebral Faculties connected with them: An Essay read before the Brighton and Sussex Natural History Society. By W. E. C. Nourse, F.R.C.S. Brighton: 1860.

ADVERTISEMENTS.

Metropolitan Counties Branch.—AN ADJOURNED SPECIAL GENERAL MEETING of the Metropolitan Counties Branch will be held in the Rooms of the Royal Medical Benevolent College, 37, Soho Square, on Friday, the 24th instant, at 4 p.m., for the further consideration of resolutions respecting the JOURNAL.

A. P. STEWART, M.D. } Honorary
ALEXANDER HENRY, M.D. } Secretaries.

London, February 7, 1860.

Her Majesty's Wine Merchant, JAMES MARKWELL.—CELLARS, 35 to 40, and 45, ALBEMARLE and 4, STAFFORD STREETS. THE REDUCTION OF THE DUTY WILL BE ALLOWED OFF THE FOLLOWING PRICES. Ports, from 30s.; Sherries, 30s.; Madeira, 42s.: Moselles, 40s.; Sparkling Hocks and Moselles, 48s.; ditto St. Peray, 54s.; ditto Burgundy, 60s.; Clarets, 28s.; Chablis, 38s.; Côte Rotie, 48s.; Champagne, 44s.; Sauterne, 40s.; ditto, Yquem, 80s.; Essence of Turtle Punch, 56s.; Old Tom, 11s. 6d. All kinds of foreign Spirits and Liqueurs. Particular and direct shipments of Montilla, Vino di Pasto, Amontillado, Oloroso, Xeres-Viejo, and Manzanilla.
Stock 10,000 dozen. Cash or reference. Bankers—SIR CLAUDE SCOTT, Bt.

James Markwell, Agent for the celebrated American Bitters (Stoughton and Sickles'), Longworth's Sparkling and Dry Catawba; Monongahela and Bourbon Whisky; Peach Brandy; Gin Slings; Brandy Cocktails; etc. etc.

James Markwell is always ready to give full value for Bottled Wines, to any amount.

TO ADVERTISERS.

British Medical Journal.— Office, 37, GREAT QUEEN STREET, LINCOLN'S INN FIELDS, LONDON, W.C.

The Journal of the British Medical Association is published every Saturday, and is transmitted direct from the Office to BETWEEN TWO AND THREE THOUSAND Members of the Association in all parts of the United Kingdom, among whom are the Medical Officers of most Hospitals and Dispensaries, and the majority of the leading members of the profession. It is also taken in by many Libraries and Medical Societies, and thus comes under the notice of a large number of Medical Men not connected with the Association.

SCALE OF CHARGES FOR ADVERTISEMENTS.

Four lines and under	£0 2 6
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A page	5 0 0

A line contains ten words.

When a series of insertions of the same advertisement is ordered, a reduction is made in the above charges.

Advertisements ought to be delivered and paid for at the Office on the Thursday preceding publication; or if not paid for at the time, should be accompanied by a respectable reference.

Post-Office Orders are to be made payable at the Western Central District Office, High Holborn, to THOMAS JOHN HONEYMAN (the Publisher), 37, Great Queen Street, Lincoln's Inn Fields, London, W. C.

[ESTABLISHED 1841.]

Medical, Invalid and General Life OFFICE, 25, Pall Mall, London.—Empowered by special Act of Parliament.

At the EIGHTEENTH ANNUAL MEETING, held on the 24th November, 1859, it was shown that on the 30th of June last—

The Number of Policies in force was 6,110
The Amount Insured was ..... £2,601,925 10s. 8d.
The Annual Income was ..... £121,263 7s. 7d.

The new business transacted during the last 5 years amounts to £2,482,793 16s. 11d., showing an average yearly amount of new business of nearly

HALF A MILLION STERLING.

The Society has paid for claims by death, since its establishment in 1841 no less a sum than £503,619.

HEALTHY LIVES.—Assurances are effected at home or abroad at as moderate rates as the most recent data will allow.

INDIA.—Officers in the Army and civilians proceeding to India, may insure their lives on the most favourable terms and every possible facility is afforded for the transaction of business in India.

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VOLUNTEERS.—No extra charge for persons serving in any Volunteer or Rifle Corps within the United Kingdom.

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INVALID LIVES assured on scientifically constructed tables based on extensive data, and a reduction in the premium is made when the causes for an increased rate of premium have ceased.

STAMP DUTY.—Policies issued free of every charge but the premiums.

Every information may be obtained at the chief office, or on application to any of the Society's Agents. C. DOUGLAS SINGER, Secretary.

MEDICAL MEN are consulted in every case, and are paid a Guinea for each Report, and receive the same advantages as Solicitors for any business they may introduce.

Family Endowment Life Office, corner of LUDGATE HILL, LONDON. Established 1835. New and important advantages to Assurers.

Medical Men are entitled to the same Commissions upon business introduced by them as are allowed to Solicitors.

EDWIN H. GALSWORTHY, Actuary and Secretary.

Pepsine.— The Liq. Pepsiniæ, as used and recommended by Dr. NELSON, can be had from Messrs. W. & C. R. TITTERTON, 6, Snow Hill, Birmingham.

TRADE MARK.

Brown & Polson's Patent Corn Flour, Preferred to the best Arrow Root. Delicious in PUDDINGS, CUSTARDS, BLANCMANGE, CAKE, etc., and especially suited to the delicacy of CHILDREN and INVALIDS.

The *Lancet* states—"This is superior to anything of the kind known."

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Obtain it where inferior articles are not substituted,

From Family Grocers, Chemists, Confectioners, and Corn Dealers.

PAISLEY. DUBLIN.

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H. Silverlock's Medical Label Ware- HOUSE, LETTER-PRESS, COPPER-PLATE, & LITHOGRAPHIC PRINTING OFFICES, Wardrobe Terrace, Doctors' Commons, London, E.C.

H. SILVERLOCK'S stock of Labels for DISPENSING purposes having been recently revised and enlarged, now consists of upwards of 800 different kinds. Yellow and Green Labels for Drug Bottles, Drawers, etc., at per book or dozen; a Book, containing a selection in general use in Surgeries or Dispensaries, 10s. 6d.

Priced Catalogues of the above may be had, post-free on application.

PRINTING OF EVERY DESCRIPTION AT MODERATE PRICES.

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